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## Obstetrics

### The Physiology of Reproduction The Endocrine Glands and Their Secretions

From the Faculty of Post-Graduate Studies of the Winnipeg General Hospital in the Department of Obstetrics and Gynaecology.

*Beginning this month there will appear, in the Manitoba Medical Review, a series of articles which have been prepared by senior internes and residents doing post graduate work in the department of Obstetrics and Gynaecology of the Winnipeg General Hospital, under the direction of Dr. F. G. McGuinness and members of his staff. These are problems which are of interest to all medical practitioners and which have, of course, special bearing in this particular subject. It is hoped that the readers of the Review will find these articles as instructive and informative as the members of the staff have found them.*

Rubin Lyons.

#### Section "A" No. 1

### Estrogens

Margaret Ledingham

#### History and Introduction

Mashall and Jully (1906) and Adler (1911) demonstrated the artificial production of oestrus in spayed animals receiving aqueous ovarian extracts. Most of these early observations were not very clear cut, however, since ovaries store remarkably little hormone and hence the latter is difficult to demonstrate without using methods of purification and concentration.

In 1912, Fellner reported the surprising fact that placental extracts have an effect upon ovariectomized rabbits similar to that of ovarian extracts, probably because the placenta contains ovarian hormones.

Work along these lines was seriously handicapped, however, by the absence of a convenient bio-assay method for the estimation of folliculoid compounds. Prior to 1923 most investigations used the uterus of immature or spayed animals as an indicator of folliculoid activity and hence, they had to kill the animal for each test. It was of great importance, therefore, when based on previous observations (Stockard and Paponicolau, 1917; Long and Evans, 1920) of regular cyclic variations in the vaginal epithelium of rodents, Allen and Doisy (1923) described the well known test for folliculoid substances. This technic is based on the cornification of the vaginal epithelium of spayed rats and mice produced by treatment with folliculoids. It may be safely said that this simple and accurate test has been the basis for all further work on the purification of folliculoids and acted as one of the greatest stimuli for the rapid develop-

ment which has occurred in the field of steroid hormones during the following quarter of a century.

Within a short time Doisy et al (1924) in the U.S.A. and Laqueur et al (1925) in Holland, not only demonstrated folliculoid activity in the fluid of Graafian follicles, but were able to prepare highly active concentrates of it.

The high concentration of folliculoid activity in human pregnancy urine was discovered by Aschheim and Zondek (1927) in Germany, subsequently Haeussler (1934) reported the surprising fact that stallions' urine contains about 400 times as much folliculoid activity as that of women and Zondek (1935) found that stallions' testes are richer in folliculoid activity than any other tissue, containing about 500 times as much as human ovaries. Thus, we learned that ovarian hormones are present in a variety of tissues and are by no means limited to the female sex.

Crystalline estrone was first prepared in the U.S.A. by Doisy et al in 1929 (theelin) and shortly afterwards in Germany by Butenasedt (1929). Estriol was isolated from the urine of pregnant women by Marrian (1930) in England.

From human placenta Collys (1930) and Brown (1932) prepared a crude extract with folliculoid activity and called it emmenin, subsequently Marrian isolated estriol-sodium glucuronide from placenta and it is now generally assumed that the folliculoid activity present in the original crude emmenin extracts was due to this substance.

Estradiol was first obtained by reducing the ketone group of estrone (Schweuk and Hildebrand, 1933). It probably represents the physiologic ovarian folliculoid as it is produced by the gonad and is the most active among the naturally occurring substances of this kind.

From the urine of pregnant mares, several folliculoids were extracted by Gerald et al (1932-36) in France. They all proved to be chemically and physiologically very closely related to the previously known compounds of this type and were called equilin, equilenin and hippulin.

Dodds, et al (1938) in England discovered that stilboestrol, a stilbene derivative, possess pronounced folliculoid activity and is highly active by mouth. This opened a new field by showing that compounds, other than steroids, may exert actions similar to those of steroid hormones.

#### Sources

Folliculoids are normally produced by the maturing follicles. This is shown by various observations. Only traces of folliculoid hormones

are demonstrable in prepubertal or senile animals whose follicles do not mature. Injection of gonadotrophins greatly augments follicle maturation and correspondingly induces folliculoid hormone production. Hypophysectomy which prevents the maturation of follicles inhibits folliculoid hormone formation.

It is much more debatable whether the granulosa or the theca cells are chiefly responsible for folliculoid formation. In large ovaries (e.g. those of cattle) the parts of the follicle can be separated and direct bio-assays indicate that follicular fluid, granulosa and theca tissue all contain very high concentrations of folliculoids. Destruction of all granulosa cells by X-rays (to which these cells are particularly sensitive) does not produce anestrus in mice if the theca cells are preserved. Treatment of hypophysectomized rats with pure LH fails to stimulate the granulea, but causes marked proliferation of the theca, accompanied by manifestations of estrus. These findings clearly indicate that the theca cells are capable of folliculoid hormone production. Ovarian tumors consisting of granulosa cells or theca cells both cause manifestations of marked folliculoid hormone overdosages.

In view of these facts and of the close embryologic relationship between theca and granulosa, it is possible that both these parts of the follicle participate in the secretion of folliculoids, but since the granulosa is not vascularized at least the raw materials for these hormones must come from the surrounding theca. It should be kept in mind furthermore that FSH causes granulosa proliferation without stimulating folliculoid secretion, while LH augments the production of folliculoids without affecting the granulosa. The bulk of evidence favors the view that the theca is the source of folliculoids.

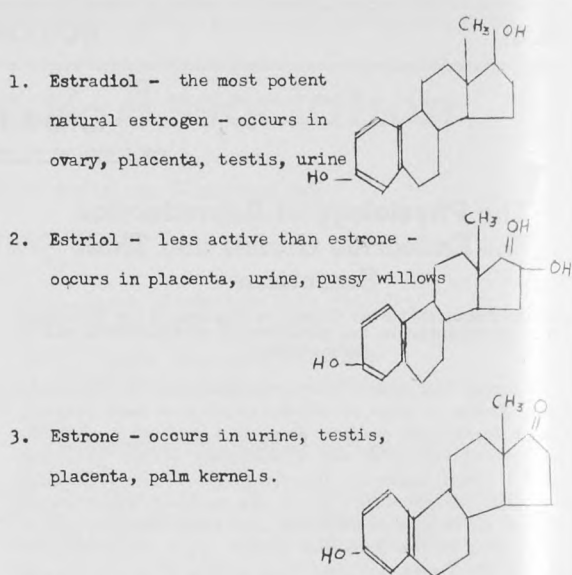
However, the corpus luteum, testes, adrenal cortex and placenta are also capable of folliculoid production, so that the elaboration of these hormones is certainly not the monopoly of any one cell type.

#### Natural Estrogens—Formulae, Properties

The estrogens are steroids. These are derivatives of the hydrocarbon cyclopentano phenanthrene (norestrane). Derivatives of this basic 4-ring compound are very widely distributed in nature and many of them are characterized by outstanding physiologic and pharmacologic effects. Examples of steroids other than the estrogens are progesterone, the androgens, bile acids and sapogenins.

A number of other biologically important compounds are related to the steroids, e.g. the vitamin D group, carcinogenic hydrocarbons and morphine alkaloids.

The structural formulae and common names of the three folliculoid hormones are.



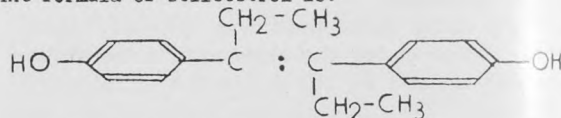
of these natural estrogens estradiol is the most effective by injection, estriol of oral administration.

These estrogens are soluble in ether, alcohol, acetone and many oils, but not in petroleum ether. They are practically insoluble in water, but are quite soluble in aqueous alkali. Certain metabolites of the natural folliculoids such as estriol glucuronide (emmenin) present in human pregnancy urine or estrone sulfate (premarin) from pregnant mare's urine are active when given orally. They give much more prolonged action than the natural hormones.

#### Synthetic Non-Steroid Estrogens

The most potent synthetic estrogens are stilbestrol and hepeptrol, others are denestrol, octofollin and D.B.E.

The formula of stilbestrol is:



The activity of stilbestrol is three times as great as that of estrone and almost comparable with that of estradiol. It is also relatively more effective than either of these when administered orally. Its esters behave similarly to those of the natural estrogens, the effect being slightly lessened, but prolonged. The dipropionate is especially effective.

#### Biogenesis and Metabolism

It is obviously of the greatest importance to determine the manner in which the body forms the steroid hormones (biogenesis) and the mechanism through which they are eventually destroyed or eliminated.



There are two principal schools of thought concerning the mechanism through which the body makes steroid hormones. Some investigators believe that they are synthesized directly from smaller molecules; while others consider it more probable that they are formed from cholesterol by degradation of the side chain.

Due to the comparative ease with which these steroids can be extracted from the urine as compared to blood and tissue, the study of urinary excretion has been used as a tool in elucidating certain aspects of estrogen metabolism. It has been shown by many that following the injection of varying amounts of estradiol and estrone, a very small amount of the administered dose can be recovered in the urine. A somewhat similar amount has been found in the feces. The same is true of male or female and the presence or absence of tubes, uterus or ovaries does not change the percentage of recovery. Only 2-10% of the administered estrogen can be accounted for and the remainder is either destroyed or stored. Storage is not an important factor (Zondek) consequently the great bulk of the estrogen is degraded or converted to substances which have no biologic activity. This mechanism is not easily saturated e.g. Heard and Hoffman have injected as much as 300 mgs. of estradiol into a normal male and still recovered about 10%.

It has also been established that the following reactions take place within the body:

estradiol  $\longleftrightarrow$  estrone  $\longleftrightarrow$  estriol  $\longrightarrow$  estrone

One of the known methods of inactivation is conjugation—estriol with glucuronic acid in man, and estrone with sulfuric acid in man and mare. In the urine of normal individuals the non-conjugated fraction is very small. It has been claimed that the content of free estrogen is high in pregnant women only during the week preceding delivery. The mechanism of conjugation does not account for the great loss of administered estrogen, however, since acid hydrolysis was performed on the urines and this breaks the glucoside or ester linkage.

Role of the liver—Liver slices can inactivate estrone and estradiol in vitro. Liver mince is not as effective as slices in performing this inactivation of x-estradiol suggesting that the enzyme system involved is dependent upon cellular integrity. Investigations in the intact organism demonstrate too that the liver is the site of the inactivation process. E. G. Schiller and Pincus showed that partially hepatectomized rats had an increased urinary excretion of administered estrogens. Shipley and Gyorgy found a deficiency in the degradation mechanism of rats with diet induced cirrhosis.

There is clinical evidence, too, of this role of the liver. Male patients with cirrhosis of the liver excrete more estrogens, as much as 83-86% of an

administered dose. Also in patients with infectious hepatitis urinary excretion of estrogens is high. Gynecomastia, vascular spiders palmar erythema, loss of chest and axillary hair and testicular atrophy have been described in patients with cirrhosis of the liver. These physical signs may be due to excessive estrogens within the body as a result of decreased inactivation.

Cantarow, Paschkis and Rakoff, first presented evidence to show the existence of an enterohepatic circulation similar to that which exists with the bile salts, i.e. the estrogens are not immediately inactivated by the liver, but that they are secreted into the bile, flow into the duodenum and are reabsorbed with the bile salts into the liver. In this fashion there is an entero-hepato circulation with gradual degradation of these steroids.

Twombly, McClintock and Engelman have prepared disromestron from equilin using radioactive bromine. Administration of this resulted in a localization of the radioactive bromine in the gall bladder and intestinal tract.

Albert, Heard, Leklund and Saffian used estradiol with radioactive iodine and showed the highest accumulation of labelled material in the gastro-intestinal tract. The next highest concentration is in the mammary gland, there is none in the ovary, uterus, vagina or liver. However, it should be emphasized that the addition of bromine or iodine to the steroid causes a loss of estrogenic activity, so that the substances administered are not true estrogens.

Vitamins and estrogens—Buskind and Buskind showed signs of constant estrees in ovariectomized rats in about ten days when they were put on a diet deficient in components of B complex, i.e. as a result of Vitamin B deficiency the liver loses its ability to inactivate estrogens. Thiamine and riboflavin are the components necessary. On this basis he attributes hyperestrinism (with functional uterine bleeding, ceptic mastitis, premenstrual tension) to a decreased estrogen inactivation as a result of Vitamin B deficiency. However, his therapeutic claims have not been substantiated by other workers and his patients do not excrete greater amounts of estrogen. Ayre has claimed that thiamine deficiency and the resultant hyperestrinism occur in women with carcinoma of the cervix uteri.

Other factors which are being considered as important in estrogen inactivation are protein content of the diet, folic acid, liver enzymes, and other hormones.

#### The Effects of Estrogen Are

1. Growth of the epithelium of the genital tract, particularly the endometrium and vagina.
2. Development of the secondary sex characteristics—external genitalia, breasts and appearance of pubic and axillary hair.

3. A vasodilator effect on the cardio-vascular system.

4. Temperature—may be slightly raised by the vasodilator effect of folliculoids. It is probable that the characteristic mild variations in body temperature during the menstrual cycle are likewise conditioned by ovarian hormones.

5. B.M.R.—is slightly raised.

6. Carbohydrate metabolism — no prominent changes have been proven in women. Folliculoids may elicit severe diabetes in animals particularly after sensitization by partial pancreatectomy and forced feeding with a high carbohydrate diet.

7. Lipid metabolism—fat deposition is often increased in ovariectomized women.

8. Nitrogen metabolism—no effect is known.

9. Water and NaCl metabolism—It has been claimed that folliculoids decrease urine output but this effect is rather inconstant. There is much controversy about Na and Cl excretion.

10. Sebaceous glands of the skin involute.

11. Growth and bone structure — Prepubertal ovariectomized tends to increase somatic growth and to delay ossification of junction cartilages. On the other hand, folliculoids inhibit growth in length and cause premature ossification of epiphyses. In the case of chronic treatment with folliculoids, the proliferation of bone tissue may cause a severe reduction of the marrow spaces, conducive to anemia. In the pubic bones there is a relaxation of the adjacent parts of the pubic bones.

12. Blood—chronic treatment with folliculoids causes severe, sometimes fatal, anemia (not necessarily accompanied by osteosclerosis). Its pathogenesis is not understood.

#### Methods For Determining Estrogens

Some modification of the Allen-Doisy procedure is usually employed, in which the material or extract is injected into castrated adult mice or rats and various degrees of vaginal estres are determined. Such tests are capable of detecting very small amounts of estrogen. It must be emphasized that minor alterations in technic may result in wide degrees of variation, so that findings from different laboratories may not be comparable, each laboratory must interpret findings on the basis of its own standards.

A number of analytic methods have been devised, but these are useful only when comparatively large amounts are present, as in the urine of pregnant women, e.g. Kober's columetric test.

#### Units

When applied to estrogens a unit must be specifically designed as:

R.U. (Rat. Unit)—a therapeutic unit developed by Allen and Doisy.

I.U. (International Unit)—a defined unit of weight, refers to estrone only.

I.B.U. (International benzoate unit)—used to designate and estradiol benzoate.

Estrone I.R.U.=10 M.U. 1 M.U.=1.5 I.U.

I I.U.=.0001 mg.=.1 dram.

Estradiol Benzoate—1 B.Z.U.=.0001 mg.=.1 dram.

#### Normal Estrogen Levels

From 3 to 7 years girls and boys excrete a small and constant amount of estrogens and also of keto-steroids in the urine. (It seems probable that these are largely derived from the adrenal cortex).

From 8 to 11 years the excretion of estrogens by girls increases, and about one and a half years before the menarche it becomes cyclic, the intensity of the cycles gradually increasing.

From puberty to the menopause there is a cyclic variation in estrogens in the normally menstruating female. The daily urinary excretion increases from a low level at the onset of the flow to a maximum at the midperiod, generally in association with the peak of gonadotrophin excretion. It then diminishes slightly, but rises again during the period of increased corpus luteum function and reaches a second peak in the premenstrual phase, to be followed by a rapid drop immediately preceding the flow. The first peak may occasionally be higher than the second, but the opposite occurs more commonly. There is considerable variation in the shape and height of the curves, in different individuals, and from month to month in the same individual. Similar findings may be obtained with blood serum. (Fig. 1).

The menopausal period is characterized by a decrease in estrogens and an increase in gonadotrophesis.

During pregnancy the estrogen content of the blood and urine increases gradually and progressively to a maximum at term, at which time very high titers are obtained. The estrogen level begins to fall in a few hours after delivery and reaches non pregnant levels within three to four days. The estrogens present in pregnancy urine are estradiol, estrone and estriol. These are present in both free and conjugated forms, but more than 90% is generally conjugated. The relative quantities of the various estrogens vary widely as pregnancy progresses. It has been found that the ratio between estrone and estriol changes from about 1:2 in the second month to about 1:15 at nine months. Estradiol is excreted at a fairly uniform rate throughout pregnancy. Immediately preceding parturition the bulk of the urine estrogen, chiefly estriol, changes rather suddenly from the conjugated to the free state, and there is a fall in the total excretion of estrogens. (Figs 2 and 3).

During pregnancy the estrogens serve:

1. To promote the growth of the uterus.
2. To develop the duct system of the breasts.

3. To cause persistence of the corpus luteum.
4. To aid in the mechanism of labor (sensitizes the uterus).

#### Increased Estrogen Levels

Increased estrogen levels occur in:

1. True precocious menarche.
2. Granulosa—cell tumors.
3. Tumor or hyperplasia of the adrenal cortex.
4. Functional ovarian disorders—with hyperestrinism. The monthly output of estrogens under such circumstances may be two to five times normal. The clinical picture of this condition may be any of the following:
  - Metropathia hemorrhagic, fibromyomas, endometriosis uterine polyps, cancer of the uterus.
5. Hepatic functional impairment.

#### Decreased Estrogen Levels

Decreased estrogen levels occur in:

1. Primary pituitary deficiency—Simmonds disease, panhypopituitarism.
2. Primary ovarian deficiency—as in Turner's syndrome primary or secondary amenorrhea, hypomenorrhea, sterility, premature menopausal syndrome, sclerocystic ovary.
3. Threatened miscarriage early in pregnancy.
4. Following death of the foetus at any stage of pregnancy.
5. In many patients with eclampsia and pre-eclampsia.
6. In diabetic pregnant women.
7. In male castrates.

#### Therapeutic Uses of Estrogens

The following list is given by Novak, as those conditions in which estrogen therapy is commonly used. He states that its value has been definitely proven only in the first two conditions.

1. Senile vaginitis.
2. Lactation suppression.
3. Menopausal symptoms.
4. Kraurosis vulvae.
5. Gonorrheal vaginitis in children.
6. Sterility.
7. Endocrinopathic amenorrhea.
8. Primary dysmenorrhea.
9. Menorrhagia.

10. Menstrual irregularity.
11. Major menstrual molemina.
12. Menorrhagia of adolescence.
13. Threatened abortion.
14. Eclampsia and other toxemias.
15. Anovulatory bleeding, used with progesterone.
16. Treatment of fractures and other bone affections.
17. Atrophic rhinitis.
18. Acne.
19. Carcinoma of prostate.

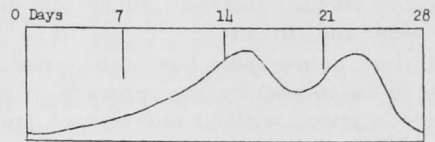


Fig. 1 - Urinary Excretion of Estrogen

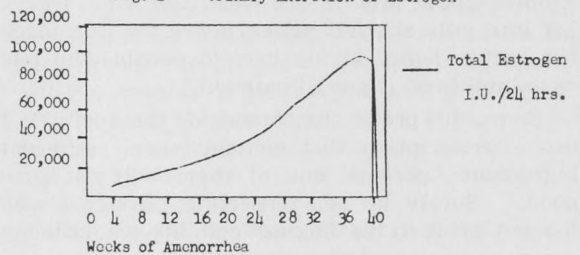


Fig. 2 - Estrogen in the urine during normal pregnancy.

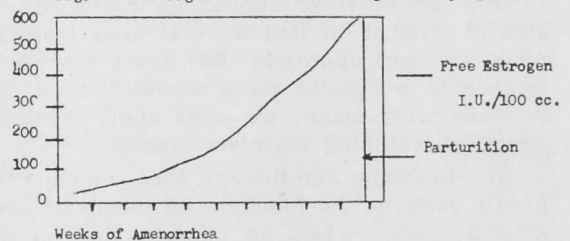
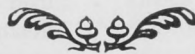


Fig. 3 - Estrogen in the blood during normal pregnancy.

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## Medicine

### Rational Iron Therapy

Paul Green

There have been many therapeutic approaches. Primitive man used imitative therapy, which we call magic; "Iron is a strong metal, therefore giving iron to a man should make him strong." We all recognize this type of therapeutic reasoning in much of the medical folk-lore which our grandmothers used (and still use).

The history of medicine has been cursed (and continues to be cursed) by the approach in which a medicine is given, without any control, and the result is attributed to the medicine:—Post Hoc Ergo Propter Hoc—"Mrs. X was weak and tired, I gave her iron pills, she felt better, hence the iron made her better, hence giving iron to people who feel weak and tired is good treatment."

Some still prefer the "broadside therapy"; "If I use a prescription that contains many different ingredients, perhaps one of them will do some good." Surely no self-respecting physician who has any pride in his diagnostic ability would today use such treatment.

Now all of these approaches could be considered rational, in that there is some reasoning process in each approach. But surely if medicine is ever to be placed on a scientific basis, and divorced from magic, we must apply controlled scientific reasoning wherever possible.

In considering iron therapy, then, we must first briefly examine the fundamental metabolic background against which an understanding of iron medication must be viewed. At the beginning let us state that iron is only of use therapeutically where there is a deficiency of iron. There is no acceptable evidence that iron has any therapeutic effect other than replacement.

**Where does the body obtain its iron?** The fetus, living parasitically on its mother, robs her iron stores. If these stores are depleted, it is unable to obtain as much as otherwise it might, and hence at birth the infant is iron deficient and its mother more so. After birth, however, the iron must be obtained from food. Food sources that are rich in iron are liver, red meats, yeast, egg yolks and concentrates of plants that have been grown on iron-rich soils, for example Molasses. In addition to iron content, the iron should be fairly readily available—best present as colloidal iron hydroxide. Iron in the form of complex organic molecules may not be so readily digested and absorbed. The average diet in this country supplies between 10 to 15 mg. of iron daily.

**How is the iron digested and absorbed?** In the main, it depends on the liberation from the foods

of ferric hydroxide. A greater percentage of iron is absorbed when fed to humans as ferrous iron, than when it is fed as ferric iron, although iron is absorbed in both forms. Factors in the food such as ascorbic acid, glutathione, sulfhydryl protein groups are important in converting ferric to ferrous iron. There is little doubt that hydrochloric acid facilitates this conversion by providing an acid medium. However there can also be little doubt that the absence of hydrochloric acid plays a very minor role in the production of iron deficiency, and that giving hydrochloric acid as a therapeutic agent has a negligible therapeutic effect, other than its effect on the psyche.

The iron is absorbed largely by an active chemical process that involves a protein complex in the intestinal wall called apoferrin. This substance avidly takes up iron to form a complex called ferritin. By this mechanism small amounts of iron can be gleaned from the intestinal tract, which might otherwise have passed through without being absorbed. It was thought that this mechanism was the guardian that prevented excess iron absorption when iron stores were full. It seems likely, however, that other mechanisms may play a part. For example, certain substances in the diet, particularly phosphate, and oxalate, produce insoluble compounds with iron. If the diet contains a large amount of phosphate, much of the dietary iron will not be absorbed. Conversely, by feeding a diet low in phosphate and rich in iron, great excess of iron can be absorbed and lead to dietary hemochromatosis.

Normally some 3 to 5 mg. of iron are absorbed daily on the average diet. Ionized iron compounds are potent protein precipitants, and so the body is careful to avoid producing such compounds. Iron is transported as an iron-protein complex. In the serum there is a specific globulin which combines with iron, and this has been called by a number of names—transferrin is one name and seems to be appropriate. There is enough of this protein present in each 100 ml of plasma to carry 400 micrograms of iron. The amount of this protein in the blood can be measured in the laboratory. The iron combined with this protein is in equilibrium with the iron in the iron in the intestinal ferritin, and with the iron stored elsewhere. Transferrin normally is not saturated with iron. Serum iron can be determined in the laboratory, and normally runs somewhere between 120-180 micrograms per 100 ml of plasma, or serum. When iron deficiency is present serum iron levels tend to be low, but transferrin levels are normal or raised. Serum iron levels can also be decreased in pathological states, particularly infections, where there is no deficiency of iron.



It was mentioned above that the serum iron is in equilibrium with iron stores. Iron is stored as ferritin, or its polymers (hemosiderin, etc.) in the liver parenchyma, and in the bone marrow, and spleen.

Of what importance is iron to the body economy? This metal is essential for the manufacture of hemoglobin, and also of myoglobin, and certain enzymes (catalase and the cytochromes). It is therefore of great importance in the transfer of oxygen within the body.

As might be expected three-quarters of the total body iron, or about three grams of iron, is present in circulating hemoglobin. Most of the remainder (about 1 gram) is found in stored iron, and the rest occur as myoglobin, enzyme and serum iron.

One further important point to be remembered about iron is that once it has been absorbed, the body cannot readily get rid of it. Small amounts of iron are lost daily in the urine, in the stool (in bile and in desquamated epithelium) and also from the body surface in desquamated skin, and in hair and nails. On the average, this does not amount to more than 3 mg per day, and this amount is readily made up from the dietary iron. The only way in which significant amounts of iron can be lost from the body is in hemorrhage, or in childbirth, when the infant carries iron from the mother.

#### **When Does Iron Deficiency Tend to Occur?**

A deficiency of iron tends to occur in infancy, especially infants born from mothers who have deficient iron stores. Infants have increased demands for iron because they are rapidly growing, and they often have poor dietary iron supplied because they are fed milk, which contains little iron and is high in phosphate.

Iron deficiency is also seen in children and adolescents who are growing rapidly, and who have deficient dietary intake of iron or have impaired iron absorption.

Iron deficiency also tends to appear during pregnancy.

In the adult, it occurs where iron loss exceeds iron intake, and this means as a rule, where there is repeated blood loss.

#### **How Do We Recognize Iron Deficiency?**

Clinically there are two ways in which this is recognized. The first and commonest method consists in finding an iron deficiency anemia—this is an anemia of a specific type in which the red blood cells tend to be smaller and to have less hemoglobin per unit of red cell than do normal cells. These changes can be discovered by estimating the Mean red cell volume, and mean corpuscular hemoglobin concentration. It is more simply recognized by examining a blood smear when the typical red cells will be seen.

In addition to the presence of the anemia, there are clinical features which may or may not be

associated with anemia, and which suggest iron deficiency. Skin changes are found in women who have been iron deficient for some time. The skin tends to be fine and thin, as does the hair. Loss of hair is often noted. Pigmentation tends to occur, and this pigmentation may resemble chloasma or Addison's type of pigmentation, but it does not occur on the mucus membranes. The nails may be flattened or spooned. Angular stomatitis occurs, very similar to the stomatitis associated with riboflavin deficiency. Iron deficient stomatitis responds to iron medication alone. Vaginitis with superficial ulceration of the vagina is not uncommon. Superficial glossitis is seen.

In prolonged, severe deficiency there may be splenomegaly, and the Plummer-Vinson syndrome with dysphagia in addition to other manifestations.

These clinical features of iron deficiency have been described in association with low serum iron but without the presence of anemia. In our experience anemia is generally found, although the anemia may be manifested by a rather modest decrease in hemoglobin. Measurement of serum iron in suspect cases may be helpful in establishing the diagnosis.

#### **What Should Be Done When Iron Deficiency is Recognized?**

Once the presence of iron deficiency has been recognized, the obvious procedure is to give the patient iron. However, one should pause at this point to ask the following question: "Why is this patient iron deficient?" Now while it is true that in infants, children and adolescents one encounters iron deficiency when the dietary intake is not sufficient to meet the demands of growth, this is not so in adults. The occurrence of an iron deficiency anemia in an adult must be taken as evidence of chronic or repeated blood loss.

In the female this source of blood loss is generally obvious, as about 100 cc of blood (or 50 mg. of iron) are lost in the average menstrual flow. If sufficient iron to replace this loss is not absorbed from the diet, then over a period of time iron stores are depleted and iron deficiency occurs. Because of the common occurrence of such blood loss in women, iron deficiency anemias are common in this sex. It should be remembered, however, that women can lose blood from other sources, and the least one can do is to take a careful history inquiring into possible sources of iron loss. A proper dietary history should also be taken when one discovers iron deficiency.

In the male, the finding of an iron deficiency is uncommon, and it is an important diagnostic discovery. It almost always means chronic blood loss, and in most cases this loss occurs in the digestive tract. **In 50% of iron deficiency anemias in males that we have encountered, malignant lesions of the digestive tract were the underlying cause of the iron loss.** In some cases the anemia was the

first clue to the presence of these lesions.

In addition to correcting the iron deficiency, then, one must also treat the underlying cause of the deficiency. This might involve surgical intervention where there is a malignant neoplasm of the colon; or an ulcer regime where there is chronic blood loss from an hiatus hernia; or endocrine correction of menorrhagia; or removal of hookworms in the iron deficiency anemia associated with hookworm infestation, and so forth.

Here, however, we are concerned with the correction of the iron deficiency. Our problem is to transfer some 2-3 grams of iron past the intestinal mucosa, into circulating hemoglobin and into the iron stores. Now iron deficiency anemia develops over a long period of time, and the patient has usually made good physiological adjustments to the anemia, therefore merely because the hemoglobin level is low there is no reason for sudden outburst of activity that manifests itself by transfusion of the patient with blood. Indeed suddenly increasing the blood volume by such means may merely precipitate acute cardiac failure with pulmonary edema and possibly death of the patient. Given adequate iron therapy the patient will restore his own hemoglobin almost as rapidly as one can with transfusions.

As it is iron that they require, let us give them iron. **There is no good evidence to indicate that adding to this iron such metals as copper, molybdenum, cobalt, or vitamins B1 to 14 and beyond, or extracts of various animal tissues such as liver, stomach or bone marrow do anything to augment the efficiency of the iron.** As a rule those preparations that contain such multiple materials do nothing but increase the cost of treatment to the patient, and generally also reduce the amount of iron taken per dose.

There is also little evidence that giving hydrochloric acid has any effect. Indeed, the amounts that can be given therapeutically do not even shift the pH of the gastric contents for more than a few minutes. We have not seen an iron deficiency anemia that did not respond to oral iron alone respond when in addition hydrochloric acid was given.

Within limits, the greater the dose of iron ingested, the more will be absorbed. However, a point is reached beyond which increasing the dose leads to comparatively trivial increases in iron absorbed. This point is about 100 mg. of iron per dose. As ferrous sulfate gr v contains this much iron, this is a good preparation to use. If this dose produces unpleasant side effects, then one can give ferrous glucuronate. There is nothing magical in the glucuronate, but gr v of this preparation only contains 35 mg. of iron, and so one has merely decreased the amount of iron per dose.

**How long should they continue to take iron?** With ferrous sulfate, on the average, a three

months' course will restore body iron. With the glucuronate, however, it takes longer and at least six months therapy should be given. In addition to the iron, these patients should be instructed in proper dietary habits, and a diet that is well balanced and contains sufficient iron should be outlined. In those women who tend to have profuse menstrual blood loss, and in whom there is no practical way of correcting this, it is best to advise them to take a supplement of iron for a week following each menstrual period. Supplemental iron is indicated routinely in the prenatal period.

As a rule, hemoglobin levels will have returned to normal by the end of two months, and usually are near normal after one month. What if there is no apparent response at the end of a month or two months? One must then question the diagnosis first of all. If there is no reasonable doubt about the diagnosis of iron deficiency then there are three alternatives:

1. The patient did not take the pills. It is remarkable how often this accounts for failure to respond. Sometimes these patients have found unpleasant side-effects and just do not say anything about this, but stop taking the medicine. More often there is a peculiar perversity about some of these women, and they just will not take them. Sometimes they will even carefully drop each dose down the drain in order to conceal this fact.

2. Sometimes the patient cannot or will not tolerate iron. Common side effects are nausea, vomiting, diarrhea, or constipation. Others complain of burning epigastric sensations, some complain of itching of the skin (although usually these are patients who do not require iron). Even surprisingly small doses of various iron compounds cannot be tolerated by some patients.

3. There is some defect in the absorption of iron. This, in our experience, is the very exceptional case.

What can be done in these cases? Parenteral iron is now available. This has been used intermittently for over 100 years but has been abandoned time and again because of toxic reactions and even deaths which have occurred from the medication. Incidentally, deaths have occurred in children from acute enteritis following the ingestion of a number of iron sulfate pills. Therefore, these like all other medicines, should be kept out of the reach of children.

Recently a preparation has become available that has very low toxicity. It is a saccharated colloidal iron hydroxide that can be given intravenously. In each cc there is 20 mg. of iron. Previous preparations for parenteral use have contained very small amounts of iron. One begins by giving 1 cc intravenously. If there is no reaction, give 3 cc the next day. If no reaction, then give 100 mg. (5 cc) daily at any desired intervals until

the whole dose is given. Roughly, to calculate the total dose give 1.5 cc. of the preparation for each 1% below 100% the initial hemoglobin is found to be. One should inject slowly, and be sure that the needle is in the lumen of the vein. If outside the vein, then a very swollen and painful arm may develop. Occasionally toxic reactions are encountered: urticarial, anaphylactoid, and sometimes these are alarming. They are exceptional, but nevertheless can occur. Therefore, one should not use this therapy where oral iron therapy will do.

The following four brief histories illustrate some of the points mentioned:

#### 1. The Average Case

Mrs. M. C., age 40. Three children. She is weak and tires easily, for some months. Worse during past two weeks. Intermittently for three years she has had sores at the corners of her mouth. These "crack open" periodically. Menstrual periods have always been somewhat profuse; more so during the past three months. Income is low. Diet mainly carbohydrate. Meat and vegetables go mainly to children and husband, and little for herself.

She is a pale, washed-out looking woman appearing older than 40; her eyes, skin and hair is lustreless; skin is fine and thin, pigmentation is seen under the eyes and on the forehead. Edges of tongue are smooth, and there are raw, red cracks at both corners of her mouth. Nails are flattened. Pelvic organs are apparently normal.

Hemoglobin 45% (6.9 gms) Red cells 4.4 million. Serum iron 49 gamma%, given ferrous sulfate gr v after each meal.

One month, Hb 80% two months, hemoglobin, 92%; red cells 4.9 million. Stomatitis has healed.

#### 2. The Woman Who Could Not Take Iron

Mrs. A. L. Polio, as a child left her with a flail-leg. Has manifestations of hysteria such as fugues, etc. Married man older than herself; income low. Many dietary fads; intake inadequate in calories and essential factors. Periods have always been irregular; she will have several months of amenorrhea, then continuous uterine bleeding for some weeks. She also has protruding hemorrhoids that bleed profusely from time to time.

Hb 28% red cells 3.8 million. She was given ferrous sulfate but was unable to tolerate this because of nausea and vomiting. She was unable to tolerate ferrous glucuronate; diluted ferric ammonium citrate produced the same result. She was admitted to hospital, after a series of intramuscular of iron cacodylate failed to produce any appreciable increase in hemoglobin (the amount of iron given was very little). At this time, no good parenteral iron preparation was available, so she was given 2 grams of iron in the form of 4000 cc of blood. Her hemorrhoids were repaired; and she was

sent home with a diet high in iron: supplements of liver, molasses, and yeast. On discharge from hospital, hemoglobin was 85%, red cells 4.8 million. One year later, hemoglobin unchanged.

#### 3. The Woman Who Would Not Take Iron

Mrs. R. R., 37. She was taken to a doctor by her husband because she was so pale. She was antagonistic and unco-operative, as she felt it was silly being seen by a doctor, there was nothing wrong with her. She was a thin, very pale, fair woman with angular stomatitis. Nails were spooned. She had five children. Denies any menstrual disturbance or menorrhagia. No other source of bleeding suggested. Husband says she eats mainly bread and tea. She never eats meat, rarely eats vegetables.

Hg 40%; red cells 4.4 million. Serum iron 32 gamma%. Given ferrous sulfate gr v three times daily. One month later, hemoglobin 36%. Two months later, essentially no change. A visit to her house showed the presence of 98 tablets in the box of 100 originally given to her. She then admitted that she had not taken the pills, although previously she had claimed that she had, because they made her feel nauseated. Over the following three weeks she was given 2 grms of iron intravenously. At the end of this time hemoglobin 74%; red cells 4.5. Two months later hemoglobin 88%; red cells 5.0 million. Angular stomatitis healed.

#### 4. Iron Deficiency as a Manifestation of an Occult Carcinoma of the Colon

Mr. D., 53, reported to his physician 1½ years before because of intermittent attacks of vague abdominal discomfort, nausea and occasional vomiting. He was placed on an ulcer regime and felt somewhat better. However, attacks still occurred occasionally. Six months later noticed some loss of weight, and consulted another physician. He was told that he was anemic and given some capsules to take (these contained 8 ingredients amongst which was some iron). His blood improved with this therapy. However, he still had attacks of vomiting. Consulted a third doctor who gave him liver injections. Finally referred to hospital. On physical examination, apart from moderate pallor, little to find. Hemoglobin 56%, red cells 5.5 million. Smear characteristically that of iron deficiency. Stools persistently positive for occult blood. Barium series and barium enema negative. Sigmoidoscopy negative. Repeat barium enema showed a suspicious area in the ascending colon. Third barium enema with careful attention to this area disclosed a filling defect just above the cecum. Laparotomy disclosed the presence of a carcinoma of the ascending colon, which was resectable. Treated with transfusions pre-operatively, given ferrous sulfate post-operatively. Follow-up over three-year period normal hematologically, and no evidence of recurrence of malignancy.



## Radiology

### X-Ray Therapy in the Treatment of Breast Carcinoma

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Considerable controversy continues to persist within the medical profession with regard to the proper utilization of x-ray therapy in the treatment of breast carcinoma. There are many considerations to be balanced. Caution must therefore be exercised, otherwise we may let one or the other assume undue influence and thereby distort the final judgment.

It is not the purpose of this paper to cover the whole application of radiation to the treatment of breast carcinoma. Rather, it will be concerned with one problem only. That is the question of the combination of x-ray therapy and surgery in the so called operable group of cases.

The first question that seeks an answer in each and every individual case of breast carcinoma is the one of the extent of involvement which is present. Steintal brought a certain degree of uniformity to the solution by introducing the concept of "staging." This constituted an attempt to classify the extent of the disease in the body before the institution of treatment. It is useful in two respects—firstly as an obvious basis for the selection of treatment and secondly as a basis for evaluating the efficiency of various forms of treatment. Despite its usefulness, however, it falls short of perfection in at least two respects. Firstly, it fails as a gauge of microscopic involvement. Secondly, it is subject to a "human error" because of variation in its interpretation by different observers. Steintal's original stages have been variously modified,<sup>1</sup> but essentially and briefly they are:

Stage I: A movable tumor confined to the breast.

Stage II: A primary tumor of limited extent with movable palpable axillary lymph nodes.

Stage III: A fixed primary tumor, secondary involvement of the skin of the breast or extensive fixed palpable lymph nodes.

Stage IV: The presence of distant metastases.

An alternative method of estimating the extent of disease is the separation of cases into operable and inoperable groups. Various "criteria of operability" have been put forth, notably that of Haagensen.<sup>2</sup> Operable cases may be considered to include Stages I and II of the Steintal grouping.

The second major decision to be sought in any case of breast carcinoma is the one of what method of treatment, x-ray or surgery, will be most advantageous.

The sensitivity of breast cancer cells to x-radiation varies.<sup>3</sup> In some instances there may be a

uniform cancericidal effect following a relatively small dose. In others the cancer may remain viable even after massive doses have been administered. Therefore the response in a given individual is unpredictable. Thus there would seem to be little reason for the routine use of x-ray treatment as the sole method in a Stage I cancer where the tumor is so limited in extent that a large mass of normal tissue can be removed with the tumor undisturbed within it.

The foundation for success in the surgical treatment of breast carcinoma has been the development of the radical mastectomy. The purpose of this operation is to eliminate every single malignant cell from the host. It is eminently successful as long as the entire involved area can be cut out. But where the disease is such that the surgeon must cut through it, leaving behind a portion, it fails. Not only does it fail, but it is actually harmful to the patient because it accelerates the dissemination of metastases throughout the body. X-ray therapy thus becomes the method of choice in inoperable cases.

At this point surgery and x-radiation may be compared by pointing out that the shortcoming of one method is the indication for the other. But this is a very broad generalization. Applied to every day practice it means that for Stage I cases radical mastectomy is very suitable. Sir Stanford Cade<sup>4</sup> expresses his opinion that radical mastectomy is one of the greatest achievements of surgery. Five-year cure rates up to eighty-five per cent have been obtained using it in cases where the axillary nodes are not involved.

In Stages III and IV x-ray therapy offers the patient a better prognosis than surgery, even though a cure is not expected. These two stages include about half of all cancer of the breast when first seen. In contrast to the dramatic cure by radical mastectomy in early cases, the more subtle palliative benefits of x-ray therapy in late cases tend to be overshadowed.

Where is the line to be drawn then between operable and inoperable cases? Cancer does not develop through a series of sharply delineated phases but by a gradual evolution. Thus no hard and fast line can be designated. Instead, a group of "borderline" cases must be recognized. It is the cases comprising such a group that should theoretically benefit from a combination of surgery and x-ray treatment. This is the group with which this paper is primarily concerned. They are the later Stage II and some early Stage III cases. The reason for renewed interest in this group is that new knowledge from isotope research offers a basis for further speculation and hypothesis.

It has been known for some time that large



doses of x-ray will not always have a lethal effect on cancer cells. This is based on the knowledge that cases so treated may recur after an interval. Viable cancer cells have also been found in breasts removed after intensive x-radiation. Although still viable, did these cells remain totally unaffected by x-radiation? Dr. Low-Beer<sup>5</sup> of the University of California has found by radio-assay studies that "it would appear that the metabolism was altered in the direction of lessened activity" in such cells. Metastases are the result of embolic cancer cells being transferred from the breast and "taking" at a new location. As a hypothesis it might be suggested that cells whose vitality has been lowered by x-ray effects might not "take" so readily. On this basis it would therefore seem a reasonable precaution to reduce the vitality of cancer cells whenever there is danger of dissemination. Such a hazard exists when radical mastectomy is carried out in a late or borderline operable case. Pre-operative x-ray treatment might be offered as a means of reducing it. Clinically, however, it has not been universally accepted hitherto.

At the Presbyterian Hospital in New York, Haagensen follows a policy of not using any form of radiation in operable cases as a routine. Only where he finds many small nodes involved and extending up into the apex of the axilla does he utilize x-ray therapy. Under these circumstances x-ray treatment is directed to the supraclavicular region on the assumption that if all the axillary nodes are involved then there must at least be some microscopic spread to the next station in the lymphatic chain.

Portmann, of the Cleveland Clinic, sees no necessity for x-ray therapy in cases treated by radical mastectomy where the axillary nodes are found to be free of disease on microscopic examination. In Stage II cases he favors post operative x-ray treatment to the supraclavicular and axillary areas, where the axillary nodes are found to be involved. This is because in about half these cases residual disease will remain after radical mastectomy. Post operative treatment while being prophylactic in intent actually becomes a reality in every other case, on the average. This is truly a response to the plea for early treatment of cancer rather than waiting for recurrence to become evident. He feels that post operative x-ray therapy in this borderline group improves the five-year survival about 10-15% but not the ultimate outcome.

Generally speaking post operative x-ray therapy after radical amputation has been fairly popular among surgeons in both Stage I and II. In Stage I it is advised by surgeons because, as Portmann suggests, they "fear undetectable involvement in the axillary and supraclavicular regions and possible criticism by patients who might subsequently

develop metastases." Considering Haagensen's opinion that a large number of surgeons do not do the radical operation properly this almost superstitious use of x-ray therapy probably has some virtue.

Berven<sup>6</sup> at Radiumhemmet in Stockholm does not believe that x-radiation improves the result of radical mastectomy where there is no axillary node involvement. But in Stage II cases where periglandular extension is present x-ray therapy as a pre-operative method is of definite value. Such cases show a five-year cure rate of 32% when radical mastectomy is preceded by x-ray therapy to the breast and axilla compared with a 7% rate when x-ray therapy is used post-operatively. Because 20% of Stage II cases have periglandular involvement he treats all cases of this Stage pre-operatively. The dosage he uses is not a cancericidal one, but is rather intended to depress vitality and thereby reduce metastasizing tendency. It is in the range of 1,800-2,000 "r" to the breast and axilla. Such a dose will not interfere with surgical healing.

Prof Smithers and Rigby-Jones at the Royal Cancer Hospital in London also believe that Stage II cases should be treated initially by x-ray therapy, which is followed by radical mastectomy. They have followed the teaching of Baclasse at the Fondation Curie administering a high dose of 6,000 "r" over a 12-week period.

The standard criticism of pre-operative x-ray therapy is that it wastes precious time before the radical mastectomy is done. This is really a false impression because actually the disease is regressing under x-ray treatment. Figuratively time stands still while x-ray therapy is being given. At the same time the possible advantages associated with diminished vitality of the malignant cells due to x-ray therapy are being obtained.

Probably the most controversial figure in the whole picture of the treatment of breast carcinoma is Prof. McWhirter<sup>7</sup> of Edinburgh. He has completely reversed the orthodox view that radical mastectomy is the mainstay in the struggle against breast carcinoma. He believes that Stage I and II cases should be treated by simple mastectomy followed by intensive post operative x-ray therapy. In this way cutting through the disease in the axilla with encouragement of spread to the supraclavicular nodes is avoided. By restricting surgery to simple mastectomy he feels that any malignant emboli set free at operation will be stopped at the axillary node barrier. Here they will be held until eliminated by the subsequent post-operative x-radiation. The weakness in his argument is that there is no way of knowing in which cases the axilla will be sterilized by x-ray therapy and which will not. Thus a few patients who might have been cleared of disease by a good axillary dissection are sacrificed if the metastases in the axillary

nodes are not radiosensitive. His course of x-radiation is quite an intensive one.

So now the final problem presents itself. Which of these policies is the preferable one? Admittedly our knowledge is incomplete, but I think we might take our cue from Berven's figures. In Stage II cases with peri-glandular involvement he reports a 32% five-year survival in contrast to 7% for pre-operative and post-operative x-ray therapy respectively when utilized in conjunction with radical mastectomy. I therefore wish to make a renewed plea for pre-operative x-ray therapy in these border-line operable cases. If you wish, this policy could be extended to almost all the Stage II group as advised by Berven.

With regard to post-operative x-ray therapy, despite Haagensen's objections, I do not think it should be discarded yet in cases where the axillary nodes are found to be involved. If it is used it should never be administered in such a way that it damages the patient. In other words enthusiasm for a cancericidal dose should not displace an appreciation for a significant growth restraint effect.

Finally a word about the future. Further re-

search is needed with respect to the relation of metastasizing tendencies and x-ray effect through the new medium of isotope studies. In the clinical field the question of the advantage of a prolonged pre-operative treatment course in this borderline operable group remains to be determined. The reports of Prof. Smithers and his group will bear watching. McWhirter's experiment should not be discounted yet. The figures he has presented so far are quite favorable. I am convinced that the conditions under which his study is being carried out are the best that have ever been attained. For a final evaluation, however, we must await his ten-year figures.

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## Clinico-Pathological Conference

Medical Department, Deer Lodge Hospital

### Clinico-Pathological Conference No. 68

At 18:00 hours a 53-year-old known diabetic with alcoholic propensities was admitted to Deer Lodge Hospital by ambulance from his home. He was able to relate that his usual insulin regime with minor modification from time to time since diagnosis two years previous, was: amac—mix P.Z.I. 40 units with T.I. 20 units on a 2200 calorie diet. He stated that he had contracted a persistent "cold" ten days prior to admission to hospital and "did not feel up to" taking his insulin for the previous two days.

Admission note records Kussmaul breathing, acetone breath, disorientation, cough and expectoration, and the complaint of great lethargy and pain all over his body.

Physical examination of the chest revealed bronchial breathing over the left base but dullness on percussion and increased tactile fremitus were considered equivocal. No adventitious sounds were noted.

He was given T.I. 50 units stat, and put on antibiotics.

By 20:00 hours when seen again on the ward he had improved and was resting comfortably. Blood sugar was 247 mgm.%. Urine sugar three plus, acetone three plus, no diacetic. Micro: granular casts and a few pus cells.

At 23:00 hours an emergency call from the ward

nurse proclaimed the opinion that the patient was in insulin shock. cursory examination of the patient seemed to agree with the nurse's opinion and he was immediately given 40 cc of 50% glucose intravenously with 0.5 cc epinephrine 1:1000 sol'n subcutaneously.

There was "slow response from rather deep shock." At 24:00 hours a rapid change again occurred marked by confusion and restlessness. He responded readily to questioning but his speech was slurred and his hands cold and pulse weak. BP 80/40. The chest was re-examined and nothing definite discovered on physical examination although he coughed frequently and the nature of the cough seemed to the examiner, an attempt to bring up much bronchial secretion. The abdomen was soft and not tender. On direct questioning he did not admit to any precordial pain and a quick neurological examination did not point to anything abnormal. Given 1000 cc of 5% glucose in saline with T.I. 25 units.

One hour and twenty-five minutes after midnight, the interne having just left the ward, was called back and found the patient dead.

The interne recorded that the patient must have suffered a sudden coronary occlusion but even with the absence of neurological signs when examined one hour prior to death, it was considered that he might have suffered a massive cerebral hemorrhage.

### Pertinent Pathology

The cranial contents were grossly normal.

Both pleural spaces were free of adhesions and contained roughly 60 cc of cloudy amber fluid.

Both lungs had lost considerable of their normal crepitant feel due to the presence of fairly marked edema and hypostatic congestion.

Coronary arterial system was minutely inspected and aside from minimal atheroma no gross pathology was demonstrated.

The liver weighed 2500 gms. and its visceral surface was light yellowish-brown in color. On serial sectioning the extreme pallor was again noted and a greasy cut surface suggested marked fatty change.

Microscopic examination of the liver showed widespread fatty and parenchymatous degeneration. Only a minority of the liver columns appeared functional.

Pancreatic islet tissue was scant and in most places, where seen, showed disorganization by fibrosis and hyaline degeneration.

The kidneys showed no Kimmelstiel-Wilson changes and only a few fibrosed glomeruli and minimal round cell infiltration.

The lungs showed edema only.

No other significant pathology was noted.

### Autopsy Diagnosis

Extreme fatty degeneration of liver.

Diabetes Mellitus.

Bilateral pulmonary edema.

### Pathology of Sudden and Unexpected Natural Death

Since some confusion regarding what is meant by sudden death usually crops up it seems best to define the usual stand on the subject first. Instantaneous death is self-explanatory. "Natural death" indicates that death resulted exclusively from disease unassociated with external violence, trauma or poisoning and was unexpected in that the victims were apparently healthy at the time of death. "Sudden" is usually taken to mean within the arbitrary limit of twenty-four hours by which rapid evolution or sudden transformation of a latent abnormality into one incompatible with continued life was responsible for the unexpected death of apparently healthy persons. It is sometimes difficult to draw a sharp line of distinction between natural death and death which may have been remotely initiated by some external factor. Thus cirrhosis of the liver may be a sequel of chronic alcoholism.

Most reviews on the subject are redundant with statistical evaluation of the frequency of various etiologic factors in sudden death but comparable series with similar social, economic, racial and other environmental background are infrequent making authoritative generalization difficult.

Rabson and Helpert have reviewed 2,030 consecutive cases of sudden and unexpected non-criminal death from the office of the Chief Medical Examiner, New York City, for the Borough of Manhattan observed during the period from Jan. 1, 1937, to June 30, 1943.

Diseases of the heart and aorta were first among the causes of death (45.7%) and were succeeded, in order, by diseases of the respiratory tract (23.2%), nervous system (18.2%), digestive organs (6.5%), urinary tract (almost 2%) and genital apparatus (1.3%). A miscellaneous group accounted for 4.4% of all deaths, and oddly enough three-fifths of these during the observed period represented estivo-autumnal malaria in drug addicts.

In general the lesions responsible for sudden and unexpected natural death fall into three categories: (1) The largest group is composed of natural disease processes which are of slow or insidious development, damaging a vital organ without the production of apparent symptoms with final sudden cessation of function; (2) Sudden and unexpected rupture of blood vessels with the occurrence of fatal hemorrhage; (3) Latent infectious disease. Of the three, vascular rupture with hemorrhage is the easiest for the pathologist to evaluate as an immediate cause of death. Infection is often less obvious, but it is chronic degenerative disease or neoplasia that is most difficult to assay. In this last category there is always the possibility of a more subtle, immediate, not necessarily natural cause of death which may be overlooked. For example, at autopsy a degree of coronary sclerosis deemed sufficient to cause death may be found, but chemical examination may reveal a lethal amount of poison, or dissection of the vertebral column may discover a broken neck.

In the classification of causes of death it is practicable to group them on the basis of pathologic anatomy and causation, distributed according to organ systems.

Diseases of the heart and aorta in Rabson's series, as mentioned above, made up 45.7% of the 2,030 cases of sudden death, and two-thirds of these were due to coronary insufficiency (30% of total cases). Syphilitic heart disease (aortitis, aneurysm, occlusion of coronary ostia, and valvular insufficiency) made up 11%; non-luetic valvular disease 4%; hypertensive heart disease and spontaneous rupture of the aorta complete the picture.

On the respiratory causes of sudden death, lobar pneumonia made up 8.7% of total cases and ranked second to coronary artery disease. Bronchitis and bronchopneumonia comprised 6.5% of the total number of cases, pulmonary tuberculosis 3.4% and pulmonary embolism 1.6%.

One-third of the cases in which diseases of the brain and meninges were implicated was due to spontaneous cerebral hemorrhage making 5.4% of the total. Subarachnoid hemorrhage 4.6%; cere-



bellar thrombosis and embolism 1.3%; suppurative meningitis 1.9%, and brain tumors 1.4%.

Certain general considerations evolved from this study. Sudden death occurred four times as commonly among men than women and the greatest age incidence was between 45 to 54 years. In older persons unexpected death usually has a substrate of obvious organic change, which, however, may be misinterpreted clinically or not be apparent. During the first five years of life four times as many boys died, thus confirming the often remarked upon lethality of boy babies. Respiratory diseases proved the great leveler, acute bronchitis and bronchopneumonia accounting for 80% of cases. "Asphyxia by overlying" i.e. when an infant is found dead presumably by bed clothing precluding adequate aeration, is considered too often a figment in the imagination of an overwrought parent although the possibility of such occurring following convulsion is always tenable. 10% of sudden deaths in this age group were due to digestive diseases, notably acute appendicitis and acute intussusception. Cardiac anomalies accounted for about 10% and meningitis was relatively rare.

In the young adult a greater diversification in the causes of sudden death was noted. Over one-third of cases were due to diseases of the nervous system, meningitis, spontaneous subarachnoid hemorrhage, cerebral hemorrhage and cerebellar hemorrhage in descending order of frequency. More than 14% were due to diseases of the heart and aorta. Tubal pregnancy and rupture were relatively high on the list in this age group.

From the age of 30 years on, diseases of the cardiovascular system took the lead and were closely followed by diseases of the respiratory system.

In Simpson's experience of 15,000 necropsies of which 68% were natural deaths, and 41% sudden, the striking feature was that failings of the coronary or cerebral arteries alone accounted for more than 56% of the total cases. These major causes of sudden death stress what Clifford Allbutt has called the "qualities of tissues carried away by the stealthy hours" leading to the final picture of sudden unexpected natural death.

A small proportion of cases in any series will be allocated to a miscellaneous group in which autopsy does not readily explain the sudden cause of death. It is in this group that the old favourite, status lymphaticus, used to come in so handy. Present day attitude holds much skepticism regarding this and Simpson considers "status lymphaticus" is no more than a status, and if we admit, however unwillingly, the possibility—that such subjects may die more readily than others of a trivial cause, that does not excuse the failure to find that cause. We should be no more at liberty to say that a person died of flat feet or a dwarf stature

or some other status."

Very little has been written on the problem of fatty liver in association with sudden death in young adults, but not infrequently a large diffusely fatty liver is the only autopsy finding. Almost invariably a history of chronic alcoholism is obtained but it must be emphasized that at the time of death, from the history supported by chemical analyses, the individuals usually had not been drinking.

As far as is known, there is no adequate explanation of the mechanism of death and of course not all persons with fatty livers die suddenly or unexpectedly.

In four out of eleven cases cited by Graham the death closely simulated acute coronary occlusion. In others convulsive seizures precede death and this brings to mind another so-called liver-death, namely eclampsia.

In 1937 Sebrell, Onstott, and Hunt showed experimentally in dogs that a riboflavin deficient diet resulted in the development of a symptom complex characterized by sudden collapse and coma, promptly followed by death, unless treated early and with adequate doses of riboflavin. At autopsy no cause of death could be found other than a constantly present yellow fatty liver.

A unique opportunity to study the kinds and special characteristics of those diseases accounting for sudden death was afforded by the recent war. Moritz and Zamcheck reviewed the autopsy protocols on 700 cases of sudden natural death received at the U.S. Army Institute of Pathology. It could be assumed that the majority had recently passed one or more complete physical examinations incident to induction into the Army, in the process of which neither a real nor a potential threat to health was recognized. There were approximately 350 sudden deaths from previously unrecognized heart disease. Almost 300 of these were due to coronary arteriosclerosis. Intracranial hemorrhage in the form of non-traumatic subarachnoid bleeding was proven in 69 of the 91 cases.

In 110, or approximately one-third of all reported cases of death from meningococcic infections, death occurred within 24 hours after the onset of incapacitating symptoms.

There were at least 140 carefully investigated sudden deaths in which the postmortem findings were essentially normal. Complete pathologic examination, supplemented in many instances by toxicologic studies, failed to disclose the cause of death in apparently healthy young men.

The methods of examination available to the pathologist are occasionally inadequate to disclose either the extent or the nature of certain disorders, even though they are of sufficient severity to be incompatible with life.

Soma Weiss stresses the fact that the structural changes found at necropsy usually disclose only an



underlying disturbance or damage which makes the cause of a certain type of death plausible. Especially perplexing are those cases of instantaneous death where the underlying structural lesions are chronic. Lesions of the same type may be found in cases in which they do not contribute to the cause of death. Evidence favors the concept that instantaneous death is often a fatal syncope. Asystole of various types and ventricular fibrillation are the usual causes.

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### Case Report

#### A Case of Tetanus

Dr. L. J. Mongeon presented the following case of tetanus under his care. Patient is a young man aged twenty-nine, who works as a carpenter at Pine Falls. About July 20th his foot was pierced by a clean nail. He was given an injection at that time. It is not possible as yet to determine the nature of this injection. About August 10th the patient suffered a second puncture wound of his foot. Towards the end of August he complained of stiffening in the jaws and stiffening in the right side of his body. He was admitted to the Misericordia Hospital, and 40,000 units of tetanus antitoxin was given intravenously that day.

The next morning the diagnosis of tetanus was very obvious, with rigidity in the masseters, in the neck muscles, the abdominal muscles, etc., and further, the patient started to suffer with convulsions. In addition to the routine of darkened room, no visitors, and a minimum of stimuli. Dr. Mongeon prescribed sodium amytal 3¾ grains every three to four hours, and dextro-tube-curarine 1 cc. intramuscularly every three to four hours. Dr. Mongeon also drew attention to the necessity for having emergency arrangements for tracheotomy for the administration of prostigmine and for the administration of controlled artificial respiration. Adrenalin should also be available to counteract any

anaphylactoid reactions to the antitetanic serum.

Dr. Gilbert Adamson opened the discussion and concerned himself particularly with the use of curare. His review of the literature led him to believe that curare is rather an unsatisfactory therapeutic agent in this context. He suggested that the dosage of 1cc. intramuscularly every three hours was a relatively small dose. In patients undergoing shock therapy under his care, one to three cc. are given intravenously to patients of average weight. With higher doses there is great danger of failure of respiration and failure of swallowing. Facilities for tracheotomy must always be available, with prostigmine as a specific antidote. Dr. Adamson pointed out that the effect of curare is transient, and serious cases of tetanus would probably do better with the long-acting preparations of curare in oil.

A number of interesting questions were raised in discussion. Dr. Stephen Elek (who had been introduced by Dr. Gubbay), Chief of the Department of Bacteriology at St. George's Hospital, England, replied to some of the questions raised. He said that there was no doubt of the fact that the tetanus bacillus was sensitive to penicillin. More than thirty strains had been tested in his laboratory and they had all been found to be sensitive. The difficulty of treating tetanus was due to the early elaboration of toxin by the organism. Penicillin has no antitoxic effect, and even antitoxin can only arrest progress at that stage at which it is administered. Nevertheless, he recommended the use of penicillin because of the sensitivity of the specific organism, because of the sensitivity of staphylococci that rendered wounds anaerobic, and because of the later danger of pneumonia in these patients. He believed that greater success in the treatment of tetanus was now being achieved by improved sedation because the early elaboration and fixation of toxin made it difficult to achieve more with antitoxin. The current practice of giving antitoxin intravenously in a single large dose on the day of admission to hospital was recommended.

As evidence of the persistence and longevity of the tetanus spore, Dr. Elek quoted recent work whereby cultures taken from Tuten Khamen's garb had produced toxic strains of tetanus bacilli. Finally he drew attention to recent work with radioactive carbon. The tetanus bacillus grown in an environment in which the only carbon atoms available are radioactive, perforce produces a toxin which contains radioactive carbon. Such toxin is injected peripherally into the experimental animal, and the rate of ascent along the nerve paths can then be measured accurately by means of the Geiger counter. This work has shown that toxin ascent has a rate much faster than could be accounted for by diffusion. Dr. Eric R. Gubbay, Mall Medical Group, Winnipeg, Manitoba.

## Medico-Historical

### Hospitals in Spain

The neglect of well-supported, well-regulated hospitals, has recoiled on the Spaniards. The rising profession are deprived of the advantages of **walking** them, and thus beholding every nice difficulty solved by experienced masters. Recently some efforts have been made in large towns, especially on the coasts, to introduce reforms and foreign ameliorations; but official jobbing and ignorant routine are still among the diseases that are not cured in Spain. In 1811, when the English army was at Cadiz, a physician, named Villarino, urged by some of our indignant surgeons, brought the disgraceful condition of Spanish hospitals before the Cortes. A commission was appointed, and their sad report, still extant, details how the food, wines, etc., destined for the patients were consumed by the managers and their subalterns. The results were such as might be expected; the authorities held together, and persecuted Villarino as a revolucionario, or reformer, and succeeded in disgracing him. The superintendent of this establishment was the notorious Lozano de Torres, who starved the English army after Talavera, and was "a thief and a liar," in the words of the Duke. The Regency, after this very exposure of his hospital, promoted him to the civil government of Old Castile; and Ferdinand VII, in 1817, made him Minister of Justice.

As buildings, the hospitals are generally very large; but the space is as thinly tenanted as the unpeopled wastes of Spain. In England wards are wanting for patients—in Spain, patients for wards. The names of some of the greatest hospitals are happily chosen; that of Seville, for instance, is called La Sangre, the blood. Blood is an ominous name for this house and home of Sangrado, where the lancet, like the Spanish knife, gives no quarter. In instruments of life and death, this establishment resembled a Spanish arsenal, being wanting in everything at the critical moment; its dispensary, as in the shop of Shakespeare's apothecary, presented a beggarly account of empty pill-boxes, while as to a visiting Brodie, the part of that Hamlet was left out. The grand hospital at Madrid is called el general, the General, and the medical assistance is akin to the military co-operation of such Spanish generals as Lapena and Venegas, who in the moment of need left Graham at Barrosa, and the Duke at Talavera, without a shadow of aid. There is nothing new in this, if the old proverb tells truth, **socorros de Espana, o tarde o nunca**; Spanish succours arrive late or never. In cases of battle, war, and sudden death as in peace, the professional men, military or medical, are apt to assist in the meaning of the French word **assister**,

which signifies to be present without taking any part in what is going on. And this applies, where knocks on the head are concerned, not to the medical men only, but to the universal Spanish nation; when any one is stabbed in the streets, he will infallibly bleed to death, unless the authorities arrive in time to pick him up, and to bind up his wounds: every one else—Englishmen excepted, we describe things witnessed—passes on the other side; not from any fear at the sight of blood, nor abhorrence of murder, but from the dread which every Spaniard feels at the very idea of getting entangled in the meshes of La Justicia, whose ministers lay hold of all who interfere or are near the body as principals or witnesses, and Spanish justice, if once it gets a man into its fangs, never lets him go until drained of his last farthing.

The schools and hospitals, especially in the inland remote cities, are very deficient in all improved mechanical appliances and modern discoveries, and the few which are to be met with are mostly of French and second-rate manufacture. It is much the same with their medical treatises and technical works; all is a copy, and a bad one; it has been found to be much easier to translate and borrow, than to invent; therefore, as in modern art and literature, there is little originality in Spanish medicine. It is chiefly a veneering of other men's ideas, or an adaptation of ancient and Moorish science. Most of their terms of medicinal art, as well as of drugs, jalea, elixir, jarave, rob, sorbete, julepe, etc., are purely Arabic, and indicate the sources from whence the knowledge was obtained, for there is no surer historical test than language of the origin from whence the knowledge of the science was derived with its phraseology; and whenever Spaniards depart from the daring ways of their ancestors, it is to adopt a timid French system. The few additions to their medical libraries are translations from their neighbours, just as the scanty materia medica in their apothecaries' shops is rendered more dangerous and ineffective by quack nostrums from Paris. It is a serious misfortune to sanative science in the Peninsula, that all that is known of the works of thoughtful, careful Germany, of practical, decided England, is passed through the unfair, inaccurate alembic of biased translation; thus the original becomes doubly deteriorated. Can it be wondered, therefore, that the acquaintance of the Spanish faculty with modern works, inventions, and operations is very limited, or that their text-books and authorities should too often be still Galen, Celsus, Hippocrates, and Boerhaave? The names of Hunter, Harvey, and Astley Cooper, are scarcely more known among their M.D.'s than the last discoveries of Herschel; the light of such distant planets has

not had time to arrive.

To this day the Colegio de San Carlos, or the College of Surgeons at Madrid, relies much on teaching the obstetric art by means of wax preparations.

Next to the barracks, prisons, arsenals, and fortresses of Spain, the establishments for suffering mortality are the less worth seeing, and are the most to be avoided by wise travellers, who can indulge in much better specimens at home. This assertion will be better understood by a sketch or two taken on the spot a few years ago. The so-called asylums for lunatics are termed in Spanish *hospitales de locos*, a word derived from the Arabic, *locao*, mad; they, like the cognate *Morastans* of Cairo, were generally so mismanaged that the directors appeared to be only desirous of obtaining admission themselves. Insanity seemed to derange both the intellects of the patients and to harden the bowels of their attendants, while the usual misappropriation of the scanty funds produced a truly reckless, makeshift, wretched result. There was no attempt at classification, which indeed is no thing of Spain. The inmates were crowded together—the monomaniac, the insane, the raving mad—in one confusion of dirt and misery, where they howled at each other, chained like wild beasts, and were treated even worse than criminals, for the passions of the most outrageous were infuriated by the savage lash. There was not even a curtain to conceal the sad necessities of these human beings, then reduced to animals: everything was public even unto death, whose last groan was mingled with the frantic laugh of the surviving spectators. In some rare cases the bodies of those whose minds are a void, were confined in solitary cells, with no other companions save affliction. Of these, many, when first sent there by friends and relations to be put out of the way, were not mad, soon indeed to become so, as solitude, sorrow, and the iron entered their brain. These establish-

ments, which the natives ought to hide in shame, were usually among the first lions which they forced on the stranger, and especially on the Englishman, since, holding our worthy countrymen to be all *locos*, they naturally imagined that they would be quite at home among the inmates.

To return, however, to Spanish madmen and their hospitals, the sight was a sad one, and alike disgraceful to the same, and degrading to the insane native. The wild maniacs implored a "loan" from the foreigner, for from their own countrymen they had received a stone. A sort of madness is indeed seldom wanting to the frantic energy and intense eagerness of all Spanish mendicants; and here, albeit the reasoning faculties were gone, the national propensity to beg and borrow survived the wreck of intellect, and in fact it was and is the indestructible "common sense" of the country.

There was generally some particular patient whose aggravated misery made him or her the especial object of cruel curiosity. Thus, at Toledo, in 1843, the keepers (fit wild beast term) always conducted strangers to the cage or den of the wife of a celebrated Captain-General and first-rate fusilier of Catalonia, an officer superior in power to our Lord-Lieutenant of Ireland. She was permitted to wallow in naked filth, and be made a public show. The Moors, at least, do not confine their harmless female maniacs, who wander naked through the streets, while the men are honoured as saints, whose minds are supposed to be wandering in heaven. The old Iberian doctors, according to Pliny, professed to cure madness with the herb *vettonica*, and hydrophobia with decoction of the *cynorrhodon* or dog-rose-water, as being doubly unpalatable to the rabid canine species. The modern Spaniards seemed only to desire, by ignorance and ill-usage, to darken any lucid interval into one raving uniformity.

Richard Ford, "Gatherings in Spain."

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## Book Reviews

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**The Mechanisms of Cell Division** is the 8th Article of the 51st volume of the *Annals of the New York Academy of Sciences*.

It includes sixteen papers, the result of a conference on the Mechanisms of Cell Division held by the Section of Biology of the New York Academy of Sciences in May, 1948, and subsequently brought up to date by the authors.

The papers are highly technical but are not without their practical applications. Our professional interest in cell division lies chiefly in its application to the problem of cancer. This has

been dealt with directly or indirectly in several papers. There is evidence that the use of drugs such as colchicine may increase the effectiveness of radiation by producing changes within the tumor that render it more vulnerable.

While not of general interest to practitioners, these papers are valuable to those engaged in research when the problems concern cell division.

**The Mechanism of Cell Division** by various authors. New York Academy of Medicine. Published by the Academy in New York. \$3.50.





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## Editorial

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J. C. Hossack, M.D., C.M. (Man.), Editor

### Martinmas, November Eleventh

Many words in common use today have strange and interesting meanings of which most of those who use them are ignorant. Martinmas (November 11th) is scarcely such a word for it is obviously the feast of St. Martin, but to St. Martin we are indebted, also, for the words "Chapel" and "Chaplain."

Martinmas, celebrated for centuries as one of the principal festivals of the year, has in our own times been made a holy day of new significance, first as the day of commemoration of the 1918-1939 Armistice, and, after that truce had ended, as the Day of Remembrance. The setting of the end of hostilities for the 11th hour of the 11th day of the 11th month suggests that the proposer of this date was primarily thinking of figures. Actually the date was particularly apt for St. Martin has been called the Soldier Saint.

St. Martin was born the son of a Roman military tribune in the town of Sabaria in Hungary, about the year 316. From childhood he was remarkable for the gentleness of his disposition, and it was the sense of filial duty alone which led him to serve in the army. When this service was completed he retired into solitude until called forth from it, in 374, to fill the episcopal throne of Tours.

He was famous for his piety and also for his zeal; and so successful was he in his missionary efforts that he was called the Apostle of the Gauls. Moreover, as the first confessor to whom the Latin Church offered prayers, he is distinguished as a father of that church.

A principal legend of St. Martin tells how, when he was a soldier, he encountered a naked beggar shivering by the gate of Amiens. The charitable legionary promptly took from his shoulders his own protection against the cold and divided it with this outcast. The garment was preserved and was later carried as a sacred banner before a succession of Kings of France when they went into battle, nor, we are told, did it ever fail to bring them victory.

St. Martin's cloak thus came to be one of the most treasured relics in France. The place where this cape or "chape" was preserved was called the "Chapelle" and its guardian was called "Chapelaine." It is from these words that we obtain "Chapel" and "Chaplain."

This interesting garment was ultimately destroyed by fire. After a lawsuit over the possession of a sleeve had continued for sixty years between the canons of St. Martin of Tours and St. Gratian, Count Laroche foucault, committed the contested relic of the flames, thus sacrilegiously but effectively ending the dispute.

The Festival of St. Martin falls in that season when the wines of the year are drawn from the lees and tasted, and when animals were (and in some places still are) killed for winter food. Therefore it was a time of feasting. Indeed, it had been so long before the birth of St. Martin, for the ancient Roman Feast of the Vinalia was celebrated in the same season. "In the Ancient Calendar of the Church of Rome," Brand says, "it is noted under the date November 11th 'The Vinalia, a feast of the Ancients, removed to this day.'"

The American Thanksgiving Day, though falling in November, was not planned as a substitute for St. Martin's Day but for Christmas. The Puritans," says Chambers, "abolished Christmas as a relic of popery or prelacy which they held in nearly equal detestation, and passed laws to punish its observance; but wanting some day to replace it, the colonial assemblies, and, later the governors of the States, appointed every year some day in Autumn, generally toward the end of November as a day of solemn prayer and thanksgiving for the blessings of the year."

As Puritanism declined in the face of increasing immigration by members of the Church of England and of the Church of Rome, Christmas became re-established in North America; but the identity of the season and the similarity of many of the practices of the Roman Vinalia, of the medieval Martinalia and of modern Thanksgiving suggest that the ancient festival still persists under a new name.

It is a remarkable fact that all the great festivals of the present time can be traced back almost to remote antiquity. The name may change, its apparent object may change, the date may vary a little, but the character and the season remain the same and the ceremonies have altered but little over the centuries. So is it with the now movable feast of Thanksgiving, but the day of the Soldier Saint gets new and nobler meaning as we remember the warrior-dead.

## About Cancer

It is a long time since I was given my most impressive and most valuable lesson about cancer. The presentation was so dramatic, so tragical, that I shall never forget it. As is true of almost all the most valuable lessons we learn it was intensely personal. It was an expensive one and a painful one, but instructive to such a degree that its message still rings in my ears.

The patient was a middle-aged woman fearful about cancer and anxious about a lump she had discovered in her breast. The lump was small, the patient was nervous, and I was ignorant of many things which I have since learned. I did not think that this little mass was significant and told her so. I did not tell her, as I should have told her, that no lump is safe, that every one, however insignificant, should be removed. I had not then coined the aphorism: "spare the lump and kill the patient." Careful watching would, I felt, suffice. Careful watching! Watchful waiting! Ye gods! Do people watch little fires grow into large ones before calling the fire brigade? I did.

I saw her again some months later. By then she did not need a doctor to tell her what was wrong. The mass was large. There were glands in the axilla. There were evidences of metastases. I was shocked, and experienced to the full all the visceral, physical and mental reactions attendant upon such a shock—feelings that will be appreciated by every one who has erred as I had erred; who has been instructed as I was then instructed.

To be sure I had not been well taught and I lacked experience. To be sure my patient had not made watchfulness possible on my part. But these, I admit, are excuses. Out of ignorance and quite honestly I had put my patient's mind at rest only to put her life in jeopardy. Perhaps an operation might have prolonged her life for a while. It would not, I now realize, have spared it for long. But I had not urged her to submit to one and so, I felt, her blood was upon my head. From then on lumps, regardless of their site, regardless of their size, regardless of their age, were things at which I shuddered. A lump is safe only when the pathologist says so—after it is out. To give me this lesson my patient paid, perhaps, with part of her life, and I paid for it in peace of mind of which I had none for many months.

I would not dwell upon this unhappy reminiscence were it not for an editorial in the *Journal of the Michigan Medical Society* from which I learn that the mistake I made more than thirty years ago is being all too often repeated today by others. And by others, moreover, who cannot plead that the fault lies in the inadequacy of their training or in their lack of practical experience or because of the absence of instructional emphasis. It would seem that the failure to recognize the

existence of cancer occurs with dangerous frequency. We have become so alert to the mischiefs wrought by the psyche that we run the risk of missing organic disease. Granted that cancer control propaganda has roused fear in the hearts of many noncancerous people, the fact remains that neurotics or victims of a phobia are no less liable to suffer from the disease they fear than are those who give little thought to the matter. Indeed, nowhere is thoroughness of investigation so necessary as in those whose ailments seem most clearly to be due to functional disturbance rather than to structural change.

The organized profession is sparing neither effort nor money in emphasizing to the public the prime need of early diagnosis and adequate treatment if lives are to be saved. Those who cannot see, hear the message over the air. Those who cannot hear, see it everywhere in print. "Go to your doctor early, you may have cancer!" "Go to your doctor early, you may have cancer," meets every eye, strikes every ear, day after day, day after day.

Unfortunately, many who should heed the admonition ignore it. But many heed it. In some of these cancer is found, treated, cured. In others unbased fears are allayed for the time at least. But there are still others who harbour within them the thing they fear (or the thing they do not suspect) and who are dismissed lightly with little examination but with much assurance that cancer has no place in them, and with the advice to employ their minds on healthier matters.

Confronted with a large mass, about the nature of which there can be no doubt, must not one think back to the first splitting of the first malignant cell and mutter, in awe, "Behold how great a matter a little fire kindleth!" And yet, every day there are doctors beneath whose hands, unrecognized, is that little fire, still only a glow, not impossible of extinguishment, which time will fan into ruinous conflagration—a little fire, unseen because unlooked for, unfelt because untouched. But the time will come when the same (or other) eyes will see what has become obtrusively obvious, and the same (or other) hands will feel what has become grossly palpable, and then, the scales having fallen from their eyes, and sensation having returned to their fingers, those hitherto blind and senseless ones will sicken and shudder at the discovery or at the learning of it from others.

How many doctors have needed this grim lesson to make them cancer-conscious? How many patients have had their lives shortened or sacrificed in order that their doctors might be made alert and suspicious; thorough and vigilant?

The writer of the editorial mentioned above propounds the following questions. "Why do some physicians":

"watch lumps in the breast to see what will happen?"  
 "call an enlarged supraclavicular lymph node a fatty tumor without examining the breast?"

"attribute irregular and copious vaginal bleeding to the menopause in patients of that age and make no pelvic examination?"

"cauterize cervical 'erosions' and not take biopsies of such areas?"

"prescribe sex hormones without first making a careful pelvic examination?"

"accept the patient's word for hemorrhoids and prescribe suppositories without a rectal examination?"

"remove dark moles with acid and the electric cautery?"

"treat men for urinary retention without examining the prostate?"

"prescribe for persistent indigestion without an x-ray examination of the stomach?"

"treat soreness around a joint, especially in a child, for rheumatism without an x-ray examination?"

"treat a persistent cough without further examination—especially an x-ray examination of the lungs—to detect the reason for the cough?"

He then concludes his comment thus, "Every speaker on cancer to lay groups learns of these experiences at first hand; they are not day dreams. They constitute one of the greatest obstacles to

effective lay cancer education yet encountered. Many people are seriously interested in protecting themselves against cancer. People who are rebuffed in their desire for self-protection by means of the medical examination and those who suffer from incurable cancer because of the wrong or neglected diagnosis, do not enhance public respect for the physician's professional ability."

Cicero, bitterly attacking the traitorous Cataline in the Roman senate, piled evidence upon evidence of his conspiracy; laid before the Conscript Fathers fact after fact of which they were themselves aware, and then declaimed "The senate knows all this, the consul sees it, yet Cataline still lives."

So is it with cancer. We are the senate that knows so much about this cellular rebellion. We are the consuls who looking, do not see; or seeing, do not comprehend; or comprehending, do not act. And so cancerous growths are allowed to live, and the bodies wherein they live will, for that very reason, die.

"The senate knows, the consul sees, yet Cataline still lives" said Cicero; and then, in a voice rising to a shout he cried "Nos, nos, dico aperte consules desumus!" "We, I confess it openly, we consuls are to blame."

## Share

Two things lead the well to take an interest in the sick—morbid curiosity, and a desire to help. Of the former there is too much, of the latter, far too little. Especially is this true in the case of persons whose ailments carry with them a stigma: most especially is it true when the sickness is insanity.

The merely curious are a bane. In times past one would find them bribing attendants to show them through the bare prison-like wards of institutions misnamed asylums. There they would gawk and gaze at the miserable patients with as little sympathy as they would exhibit towards side-show freaks.

Today, hospitals for the mentally sick are not only asylums in the true sense but also places of active (and often of successful) treatment. But the age-old stigma still attaches to their inmates although few now regard these unfortunates as victims of divine wrath or of demoniac possession. Still, to the layman, they are surrounded by an aura of repellent mystery, and therefore they get little of the sympathy so freely given to crippled children or to sufferers from cancer.

And yet, those who live, not in the total blackness of dementia, but in a twilight state, sorely need kindly folk to help them towards the light of happier days. Sympathetic interest on the part of the laymen is therefore as desirable and helpful as morbid curiosity is undesirable and hurtful.

Recently this helpful interest has taken an organized form. As might be expected women are its originators and compose its membership. To their group they have given the name "Share."

The members of the group have all been chosen because of their ability, rather than because of their mere willingness, to help. They have not been trained either to devise or to direct but only to help as serving sisters and as such they bring a new and refreshing element into asylum care.

Patients who are painfully conscious of their unhappy state and fear the world derive encouragement from the fact that they are not without friends. Under professional guidance the members of Share help to lead the ill back to the paths of health and re-habilitation; and, in so doing, make the journey less difficult and more speedy. Meanwhile community education fosters a kindlier attitude towards the discharged. Thus the outside world is made to seem less far away, less harsh, less to be feared when such helpful visitors are in attendance daily, and the way has been paved for re-acceptance into it.

The following information has been supplied by them:

"Share" is not merely a word. It is the following belief, demonstrated in action. That, by sharing more of the positive, healthful aspects of normal community living, with the mentally ill, Manitoba's citizens will make it possible for a much



greater number of the patients in our mental hospitals to return to permanently happy and useful lives, within the community. To this end the organization "Share" has been formed in Manitoba. As set forth in its constitution, the aims of "Share" are threefold:

(1) Increasing the existing facilities and scope of recreation and occupational therapies for patients in Manitoba's mental hospitals, partly through services of trained volunteers.

(2) Implementing rehabilitative services for newly discharged patients.

(3) Broadening the scope of mental health education, and fostering a better public understanding of mental illness.

From January, 1950, to January, 1951, five women volunteers from Winnipeg travelled to Selkirk Mental Hospital, once weekly, and initiated a recreation programme for approximately fifty patients at a time, on the hospital wards. Two hundred patients participated in these programs. By January, 1951, this volunteer work had won such enthusiastic approval, from both patients and staff, that it was decided to set up a permanent organization through which many more volunteers might be recruited, and through which support, both material and financial, might be given to this project. Within three months, twenty-five new volunteers had been recruited, screened for suitability, and trained with the co-operation of the hospital staff; a separate executive committee and an advisory board were formed, and a constitution adopted. Executive committees on Finance and Ways and Means, Transportation and Entertainment, helped to co-ordinate the volunteer program. Following are comments by Dr. Edward Johnson, superintendent of Selkirk Mental Hospital, on this volunteer work. "The efforts of the volunteer group have been a Godsend to the hospital." "The fact that volunteers are helping in the hospital of their own free will is an encouragement to the staff as well as to the patients." Miss A. Thorstensen, Chief Occupational Therapist at Selkirk Mental Hospital, also stated: "Yes, indeed, we could use a great deal of volunteer help to keep the patients interested in beneficial occupations. The patients get discouraged and lose interest if left alone."

## Book Reviews

**Rosenbaum's Clinical Electrocardiography** is a revised section of Oxford Loose-Leaf Medicine done into the form of a convenient book complete with bibliography and index, and thus made suitable for a text book.

It is a complete manual on the mechanisms and technique of electrocardiography and on the interpretation of electrocardiograms. All the conditions in which cardiography is helpful are discussed and



















illustrated. Disorders of rhythm, ventricular hypertrophy, infarction get full coverage while space is devoted to a number of miscellaneous disorders which alter the form of the electrocardiogram such as angina pectoris, pulmonary embolism, circulatory and emotional instability, changes in serum potassium concentration and so on. There is an abundance of illustrative tracings.

The purpose and scope of the book is best given by quoting the author's final paragraph and the final paragraph of Dr. Christian's introduction.

"An attempt has been made in the material presented here to give the reader some understanding of the principles upon which electrocardiography is based and to indicate the place of this method of study in the clinical practice of cardiology. It is proper, also, that the clinician should be mindful of the limitations of electrocardiography. Except in special instances, the electrocardiogram does not permit etiological or pathological diagnosis nor does it measure the functional capacity of the heart. Recording the electrocardiogram is an important laboratory procedure, but it is only one of the several approaches to the problems confronting the clinician. If the electrocardiogram points the way to the proper diagnosis, the investigation of that particular patient is incomplete until supportive evidence has been disclosed by the other techniques of a complete cardiac examination. If the electrocardiogram reveals information which is at variance with the remainder of the clinical studies, the situation must be evaluated with exceeding care, and the physician must not hesitate to discard an equivocal, unsupported electrocardiographic diagnosis. There is a widespread tendency, well appreciated by those familiar with the general level of electrocardiographic interpretation, to give far too much importance to minor changes in the configuration of the electrocardiogram. Such errors will be avoided, if the electrocardiograph is used always in close conjunction with all the other clinical and laboratory methods available to the physician. If these considerations guide the study and use of clinical electrocardiography, the method will continue to prove its true worth."

"Dr. Rosenbaum, who has written this discussion of clinical electrocardiography, is well qualified for the job. Trained under Dr. Samuel A. Levine, of Boston, and Dr. Frank N. Wilson, of Ann Arbor, he has made important contributions to the subject, and at present is practicing cardiology in Milwaukee. In this small volume he presents in condensed, complete, and easily understood form the present-day views of electrocardiography, with interpretation of many illustrative electrocardiograms and discussion of the role they play in clinical medicine. It seems to be just the sort of book to fill the needs of both general practitioner and cardiologist; to both groups it is recommended by the editor."

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1. Am. J. Obst. & Gynec. 54:738 (Nov.) 1947.

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## Social News

Reported by K. Borthwick-Leslie, M.D.

Our Department of Physiology and Medical Research is in dire straits: They require the following volumes and have asked me to prod those more scientific members who at some time in a burst of enthusiasm purchased them, and have them stored in their libraries. Please do a quick survey and kick through with: Quantitative Clinical Chemistry, by John P. Peters and Donald D. Van Slyke; Baltimore, The William & Wilkins Co., 1st edition. Volume I, 1931, Interpretations; Volume II, 1932, Methods. Apparently there is a small item of no further volumes coming out for some time, so these books will be greatly appreciated by the department. Thank you.

Now that the H.R.H. excitement is over and even we veterans pacified, Churchill has been elected—God bless him and also God help him—our local elections are over, may I express my sincere regret at not being able to attend that most important event of all, the Manitoba Medical Convention. I was unexpectedly called to Calgary for a family emergency and had to miss the whole do. No attendance, no gossip. (Though off the record, I do believe there was the odd bit of delectable juicy possibilities.)

Speaking of Calgary, I needed a stethoscope, etc., so called our old friend Harry Morgan. He, in typical western manner heaved his broken ankle with cast out of bed, called for me and after marching miles, it seemed, through softly padded corridors, in and out of offices, examining rooms, nurses rooms, technicians laboratories, reception rooms, buffies, cardiology rooms, X-ray rooms, etc., I finally sneaked up on a stethoscope, and believe it or not, the same type we use. By this time I was all prepared to concur with the big brother when he announced "Katie, there's OIL in them there hills." Seriously speaking, Harry looks wonderful and seems to not only be doing good medicine but is good for medicine. He spends a great deal of his time helping organize the provincial setup.

The wedding took place Sept. 6 in Grenfell, Sask., of Anita Jean Claxton and Dr. John F. Hughes, son of Canon and Mrs. Frederick Hughes, Winnipeg.

Dr. and Mrs. Leon Rubin (nee Lorraine Black), Rivers, Man., announce the birth of Harry David, Oct. 11, 1951.

On Oct. 6, at Virden, Man., Violet Gardiner became the bride of Dr. Gordon Selby. After their wedding trip to the U.S.A. the young couple will reside in Biggar, Sask.

Born to Dr. and Mrs. Leslie Cera (nee Gloria Kobrinsky), Stephen Charles, Oct. 6, 1951.

On Oct. 6 the Lutheran Church of the Redeemer was the scene of the wedding of Alice Strom, Fort Frances, Ont., to Dr. Edward Otke, Winnipeg. Following a reception at Roslyn Gables the young couple departed on a tour of the States. They will reside in Roblin, Man.

On Oct. 6 Trinity Baptist Church was the site of the exchanging of wedding vows between Madeline Joyce Justice and Dr. James M. McMahon, son of Mr. and Mrs. H. McMahon, Morris, Man. Dr. and Mrs. McMahon spent their wedding trip and holiday in Minneapolis.

On Oct. 2 Marjory G. Alexander, daughter of Mrs. Lucille Alexander, became the bride of Dr. John C. Graham, son of Alderman C. E. Graham. Following a honeymoon trip through Yellowstone, Banff, Calgary, etc., Dr. and Mrs. Graham will reside in Minnedosa, Man.

Change of scene! Miami, Man., on Oct. 4, 1951, was the happy scene of the wedding of Mona May Lawson and Dr. Lawrence Loughheed. The bride is the daughter of Mr. and Mrs. Ingram Lawson. The bridegroom is the son of our one and only Dr. and Mrs. M. S. Loughheed. Many of our illustrious confreres and associates attended the ceremony. This wedding trip was to New Mexico, California and Western Canada.

Dr. and Mrs. Wm. J. Boyd, 1012 Ingersoll St., rate the orchids! On Oct. 14, 1951, to them was born Richard Bruce (11-4)! Richard is the fourth son and the grapevine reports the ultimate is by order of the senior boys, at least two more to make that six-man hockey team. At that weight are you sure, Bill, the kids aren't mixed up with Joe Louis' game?

Dr. and Mrs. McMahon announce the arrival of John David at Victoria, B.C.

Dr. and Mrs. McAlpine (nee Shirley Cruikshanks), 2713 Fulton St., Toledo, Ohio, are pleased to announce the arrival of Laurie Lee on Oct. 5,

With our most sincere sympathy to her parents, brothers, associates in India, friends in Canada, do we bid farewell to Dr. Merle Patterson, who at the height of her career as a Missionary in India, spreading not only our Creed but our Medical Science, has come to such an untimely end.

To Ye Editor! Thank you so much for the get well greeting, and that so feeble statement, "You can't keep a Good Gal down." Personally, am still "pooped" but thanks for the "Rosch Hossanah." whatever it does mean, even interpreting your handwriting, it hasn't worked. You as a Neuro-Psychiatrist have me so concerned as to that "Good" Gal. Am feeling mighty low: What does that make me?

Something

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## Articles

### Medical Practice in the Eastern Arctic

Noel R. Rawson

In was in 1944 that I had the good fortune to be seconded to the Bureau of the Northwest Territories and appointed medical officer at Chesterfield.

At that time Chesterfield was the most populous post in the Eastern Arctic and still may be, though Baker Lake has been developed largely since the recent war. At Chesterfield were representatives of all the elements that make up the community of that region: 27 persons in all, including seven sisters, two Oblate fathers with two brothers, the families at the Hudson's Bay Company Post, at the R.C.M.P. station, and the Wireless Officer's station and two wireless operators and ourselves. The Hudson's Bay post and the Oblate Mission were established here in 1912; the R.C.M.P. moved here from Fullerton in 1921; a weather and radio station was established in 1930; and in the same year the Grey Nuns built the Hospital at Ste. Marie Thérèse, a structure of three stories, a year after the coming of the first doctor to the community.

Thanks to the 24-hour service of the radio station or "nialekti" the medical officer at Chesterfield can receive messages at any time of day or night from any Hudson Bay post in the Eastern Arctic, either direct or relayed through some other weather station. At each post the H.B.C. radio is open for reception during a stated hour each evening, provided conditions are favourable, and will remain open when messages are expected, as in a medical emergency.

Here I would pay tribute to the fine devoted work done by the white men, traders, missionaries, police and radio operators on behalf of the natives stricken by illness or by accident. Many long journeys and repeated journeys are made on their behalf.

At Pangnirtung, commonly known as Pang, there is no weather station, so that the medical officer stationed there has to rely on the service of the H.B.C. radio and reception is not always good, so that all messages of medical emergency are directed to the M.O. at Chesterfield, who thus comes to be regarded as the medical officer for the whole of the Eastern Arctic; a territory of some 600,000 square miles, nearly one-fifth of Canada, with a population of some 6,000 Eskimos and 150 whites.

It was thus I came to have the honour to assist the late Canon Turner in the delivery of his first child at Arctic Bay, a distance of some 700 miles from Chesterfield, and to advise on the treatment of a "Charlie horse" on Resolution Island some

800 miles to the east at the entrance of the Hudson Strait. I was able to give advice on the setting of fractures, amputation of a finger, relief of the pain from a kidney stone, and various abortions and complications of childbirth. Many epidemics were also reported that were puzzling and vexing to those trying to control them: measles, whooping cough, dysentery, influenza, scabies. Several deaths resulted from scabies as a result of the boils and inflammation set up by scratching with unwashed fingers.

A tragic incident was reported from Lake Harbour. All five inhabitants of one tent had died. They had all fallen ill about the same time complaining of dizziness, extreme weakness, blurred vision and difficulty in swallowing with some foaming at the mouth. The five persons had died one after the other, the first a few hours after the onset of symptoms, the last about a week later. One boy in another tent had fallen ill about the same time, but had recovered. This boy had partaken of a meal with the deceased family about 24 hours before the first fell ill. At that meal they had partaken of parboiled seal, probably nearly raw, from a carcass that had been lying on the floor of the tent for some time. The most likely diagnosis seemed to me then and still seems to me botulism, a pretty rare disease.

This radio practice kept me interested while at Chesterfield, together with attendance on the sick who visited the hospital, and inoculation and clinical examination of about 270 natives. There was always time for reading, for brushing up my French, for making a stab at Eskimo, for a quiet game of crib with my wife in the evening, or of bridge when a couple dropped in, and for the occasional chess game usually with a native.

At times I had the good fortune to visit other posts on the Keewatin mainland, Baker Lake, Repulse Bay and Eskimo Point. I travelled by boat, usually the 80 ton schooner Fort Severn, sometimes in an 8 ton Peterhead, occasionally by plane and often by dog team.

In September, 1945, I received word from Ottawa to proceed to Cape Dorset where an outbreak of typhoid fever had caused some deaths. I left by plane expecting to be away five days but much to the chagrin of my wife stayed five months, during which time I visited several native camps.

In August, 1946, through the well-timed indisposition of one of the men bound for a northern station, I was given a berth on the Nascopie and sailed on her through the Hudson Strait on a warm Sunday afternoon with the sea calm and blue—one might have been on the Mediterranean at its



best—then north to Fort Ross and Dundas Harbour, calling at various posts with which I had been in correspondence, and at Pang (where there is an Anglican hospital). I then went on to Montreal by way of Labrador. This was the trip on which Dr. Lewis was making a clinical and X-ray survey of the Eskimos.

Such then is the basis for the few remarks that I can offer on the land of the Eastern Arctic, a land bereft of trees, but with a beauty all its own, of crisp bracing air, of wind and of wide expanse, with room to breathe and with time to think, of long winter nights, and of weeks when there is no darkness, when the sunset fades into the dawn, or further north where there is no sunset.

Modern geographers, I understand, no longer consider the Arctic as bound by the Arctic circle. That is out dated, although the assistant priest at Repulse Bay is still detailed to polish it each morning and the trader complains of it being in the way when he gets up on the morning after a night before! They now define the Arctic as that area in which the mean monthly temperature never rises above 50 degrees. This is almost coterminous with the land north of the treeline and with the country inhabited by the Eskimo, the Indian rarely venturing beyond the fringe of the forest. There is very little of the Mackenzie District in this area beyond the treeline and only the northern tip of the Yukon. Correspondingly of the 7,000 Canadian Eskimos, 6,000 live in the Eastern Arctic; that part of Canada north of the treeline which is serviced from Hudson Bay and the Atlantic. It comprises the Barrens or Arctic Prairie lying between the Great Bear and Great Slave Lakes and Hudson Bay, the peninsula of Ungava, Southampton Island, Baffin Island, Melville Peninsula and the northern islands, Devon and Ellesmere.

The Arctic Prairie, extending some 500 miles north from the Manitoba boundary, and 400 miles east and west, is a flat land of rock and water in summer, of snow and ice in winter, with only occasional elevations. The focus is Baker Lake, now an important military and weather observation station, with a Loran post. Other land marks are the Kazan River to the south and the Back River to the north. Chesterfield Inlet penetrates the land for 150 miles, the longest, except the Mediterranean, of any inlet in the world. The tide is met just east of Baker Lake: the post is at the western end of the lake, 30 feet above sea level and at the foot of the first rise of hill. This country is said to have been the home of the Eskimo for centuries before the majority migrated to the coast, about 500 years ago. Those remaining are known as the caribou Eskimo, because they subsist almost entirely on the caribou, having no access to the seal and other mammals of the ocean. The flesh is the choicest meat, the horns

and bones were used formerly for tools: therefore the Eskimo living at the coast comes inland in the summer and fall to hunt this staff of life. Caribou fat serves as fuel for the inland Eskimo but is far inferior to seal oil. The skin of the seal is used for waterproof boots and boats, and that of the square flipper seal for thongs, oil for fuel the flesh mainly for dog feed unless caribou is scarce. We found the liver of the seal the tenderest yet. The coastal Eskimo can also catch salmon as they return to the sea, as well as the whale and the walrus.

The peninsula of Ungava, although part of the Province of Quebec, comes under the administration of the Bureau of the Northwest Territories. It is the most thickly populated of all parts of the Eastern Arctic, with only 43 square miles of land and 2 miles of coast line per Eskimo, as compared with 100 square miles of land and 6 miles of coast in Baffin Island and 51 square miles and a four-mile coast line per Eskimo on the Keewatin Mainland. Round the coast of Ungava are many posts, at some of which the Indian Health Services of the Department of National Health and Welfare have established Nursing Stations, as also at Cape Dorset and Lake Harbour across the strait, and at Coral Harbour on Southampton Island. I may say here that the care of the health of the Eskimo was transferred from the Bureau of the Northwest Territories to the Indian Health Services when that Department was formed in 1945.

At Coral Harbour there is also a H.B.C. post and a Roman Catholic Mission, also, I am told, a military post. During the war and until late 1945 there was a United States military base a few miles from Coral Harbour with a fine hospital. At one time I had a vision of this hospital being acquired by the Government as a central hospital for the Eastern Arctic with an establishment of three or four doctors, and an adequate number of nurses and orderlies, leaving Chesterfield and Pangnirtung as large nursing stations. Of recent years Dr. Malcolm Brown and his associates of Queen's University have been doing some valuable research work on Southampton Island. Though they have published little but their finding a prevalence of worm infestation among both men and animals, Dr. Brown has kindly sent me some useful data and opinions which I use here.

Baffin Island with an area of 200,000 square miles is the largest island of the Arctic. Few Eskimo live on the west coast facing Foxe Basin, though Mrs. Manning has written a very entertaining account of her sojourn there with her husband, Tom Manning. The southern coast is of low hills and islands, formed as it were of huge boulders scattered by some giant hand.

The north east coast is precipitous with many beautiful inlets, Frobisher Bay, where the Ameri-

cans had and I understand still have a military base; Cumberland Sound, awesome in its grandeur, where there is an Anglican Mission; Hudson Bay Station and Hospital; Navy Board Inlet where many magnificent glaciers descend the steep mountain sides into the sea; Admiralty Inlet with the Arctic Bay post; and Moffet Inlet, the centre of Canon Turner's active mission and the scene of his fatal accident.

From here we proceeded through many ice flows to the post of Fort Ross at the entrance to Bellot Strait, a key to the north west passage, and then to Dundas Harbour where there was an R.C.M.P. post, not far from a broad slowly moving glacier. On two recent occasions the icefloes prevented the approach of the Nascopie to Fort Ross: finally the factor and his wife were brought out by plane. I understand this post is now abandoned. On our homeward route we stopped at Cartwright, the site of a Grenfell Hospital. The sight of trees struck a welcoming note in the hearts of many of us and it was grand to ramble in the woods above the settlement.

The Eskimo is a genial fellow, short and sturdy, courteous and ever ready to help, willing also to accept the white man's knowledge. He is strictly honest, apparently he has not learned to lie nor to steal: when faced with an awkward question he will smilingly answer "amai," "I do not know." He is faithful to his friends including those with whom he is travelling, but resents any interference in the art in which he justifiably feels he knows best. Stories are told of round about journeys home causing considerable delay when undue impatience has been shown. The story is told that two priests journeying north in the Mackenzie district with Eskimos, felt these men were not working as hard as they might, so one of the priests took up his gun and pointed it at one of the men: he and his companion paid for this with their lives and are now martyrs.

The Eskimo, however, never seems to quarrel; even among children there were no fights. On the other hand an Eskimo may stab another in the back if he thinks he has been done wrong. Blood feuds between families are said to have been common in the old days.

He is intelligent and quick to learn. In particular he has shown a ready aptitude for machinery, as in the outboard motor or in the Diesel engine in the Peterhead and schooners. Formerly he had no writing, but in the 90's an Anglican missionary, the Rev. E. J. Peck, stationed in Cumberland Sound, introduced the syllabic script that had been invented by another missionary, the Rev. Evans, for the Cree at Norway House. In this the shape of the symbol denoted the consonant, the direction of the symbol the vowel sound. Now, save perhaps in the most remote regions, all

Eskimo in the Eastern Arctic can write this script, not taught by the whites, but handed down from parent to child. Thus they can correspond with friends at a distance, sending gifts and letters by anyone going that way.

Without metal and with scarcely any wood, save that which drifts their way, the Eskimos developed a mode of life capable of deriving the most from the world as they saw it. The waterproof boats, the kayak for speed in hunting, the umiak for longer journeys, for transport, were of skin stretched over the ribs of a whale, sewn together in lock stitch with the fine threads of the caribou sinew, long before the surgeon learned the value of such thread. It is the only race known to have invented the thimble save the white.

The caribou clothing, "attigi" with fur on the inside next the body and the "kolikta" with the fur outside, is the finest yet discovered. The relative scarcity of the caribou is the hindrance. The vulnerable part in the outfit is between the sleeves and the mitts and between the pants and the stockings: frostbite round the wrists and round the knees is not uncommon, and the latter in particular gives considerable trouble. Frostbite of the face is so common that little attention is paid to that. The waterproof sealskin boots are kept supple only by the frequent chewing by the women.

The Igloo or snowhouse is also unique. Built of blocks of snow fashioned, it is said, in imitation of the older houses of stone, and of the large bones of the spine of the whale. And in the snowhouse the semi-circular stove or hollowed soap stone is well adapted to the burning of seal oil for heat and for illumination. Now, many use the primus stove and the coal oil lamp or candles.

The Eskimo's sense of direction is uncanny. The night the police were expected home from Eskimo Point with the mail was one of the wildest we had ever experienced. It was generally conceded that there was little use expecting mail that night: no one could find their way in that pitch darkness: but sure enough they came. Corporal Corey told us he could see nothing, he just went blindly on, guided by his native: this man never deviated till they came to the entrance to the bay; there was nothing to be seen as far as Corey could make out, but the native never wavered, never hesitated, just brought them right home with their precious sacks of letters.

One morning I left Eskimo Point in a native's Peterhead. It was fair as we set forth, but before we got out to sea the fog settled all around and we could see nothing beyond a few yards: the sun shone dully through at first, but before long we lost that too, only to see its image at times during the day. The compass is no good in that bay, first because of the proximity of the magnetic pole,

secondly on account of the iron ore in the bed of the sea: the needle will make the weirdest turns. However the steersman directed his course unflinchingly ahead. At evening he told us to listen: in a short time we heard the sound of the breakers on a distant crag. Just under an hour later he swung the boat suddenly: he had seen the white crests of the waves as they broke on the rocks of the island to which we were heading for the night's camp!

One afternoon at Chesterfield the fog was so thick that the good Sisters felt it unsafe for me to venture home unguided. As we were debating this, my man Anulik arrived for he too had his misgivings. He took my arm: I could not see him as we glided home: though I felt my feet on the ground it seemed to me we were on some magic carpet, so easily we went.

Since the early days of the whale hunt there has been considerable admixture of white blood and occasionally of negro. On my first visit to a native camp with Father Dionne, we opened the flaps of one tent to be greeted with the smiles of a dusky couple and between them a beautiful little blonde, with blue eyes, fair skin and golden hair. She was the grand-daughter of this couple or rather of the woman, for both her father and her mother's father had been white men. She was the most striking white blood person I was to see as Eskimo, but many showed unmistakable signs. The tallest man I met there was half an inch under 6 foot. His mother was an unusually repulsive Eskimo, ugly in face and in temper. His father was, on good authority, reported to be a well respected traveller whose name may not be unknown to you: Peter Freuchen. One of the bonniest lads you could meet anywhere was said to be the son of a former medical officer. One big fellow had typical negroid features with black curly hair in contrast to the long, straight hair of the Eskimo! His grandfather had served on an American whaler and was noted for his great strength for he was able to wield with one hand a harpoon that required any other two men to lift.

It is said both by independent trappers and by the Hudson's Bay managers that the half-breed shows more skill in trapping, and in hunting than the full blooded Eskimo. He is more reliable.

The Eskimo is one of the few races that have not brewed fermented liquor: and even now few partake of it, for with few exceptions the white man has been faithful to the rule to refrain from giving any wine or spirit or beer to the native.

The average height and weight of the men both at Chesterfield and at Eskimo Point was 65 inches and 149 pounds, and of the women 59½ inches and 122 pounds. Although Chesterfield showed a higher admixture of white blood. The

figures also tally with those found by Peary on Melville Peninsula over 100 years ago.

The hands and feet are short and broad, the head brachycephalic. The hair of the scalp is black, straight and usually worn long. There is rarely any hair in the armpit or on the chest and little on the pubis. The older men often show a small tuft of hair between the lower lip and the chin. The iris is dark brown and the eye-ground usually has a beautiful tigroid appearance.

Two features indicative of the Mongolian are seen in the large majority the epicanthus and the blue mark or *la tache bleue* of the infants. The epicanthus is a semilunar fold of skin situated above, more often covering the inner canthus of the eye. It is usually regarded as a third eyelid, but seems to me a prolongation of the upper eyelid. It is associated with the broad bridge of the nose. *La tache bleue* is, I think, to be seen on the backs of all full blood Eskimo babies, but is frequently absent in those of mixed blood. It is to be seen over the mid or lower lumbar spine, but often spreads over a wide area, even as high as the inter-scapular area. It disappears as a rule during the first two or three years, but I have seen it at the age of 5 years.

As a result of his study of the Eskimo language and his comparison of it with various languages of the Indians, Dr. Peck came to the conclusion that there was no connection between the two races. Dr. Jordan of Toronto, made a blood typing survey of the Eskimo in the Eastern Arctic. Of 369 natives examined only 2.7% showed B grouping and 1.6 AB, a marked contrast to the prevalence of these types in the Chinese.

The usually accepted view is that the Eskimo came from the Asiatic continent across the Behring Strait somewhere about 1000 years ago succeeding the Thule culture in the Eastern Arctic, which had already superseded the Dorset.

In those who have not indulged in the white man's diet the teeth are fine and white up to 40 years of age, though frequently crowded, one incisor behind the other or behind the canine as though the jaw were too short. Through the chewing of leather for shoes and of the shoes themselves the teeth of the women are worn down so that the pulp shows through the overlying dentine and often down to the gum level.

Of 35 women between the ages of 15 and 40, 29 had complete sets of teeth, though two of these showed cavities; of 44 men of similar age, 36 had complete sets, 2 of which had cavities. In 21 of the 79 the dentures were crowded with displacement of teeth. After 40 the teeth seem to decay rapidly: only 2 of 33 persons examined over 40 years of age had complete dentures.

I was struck by the general cleanliness of the bodies of the Eskimos despite their lack of ablution.



tion. Pityriasis was, it is true, present in a fair number. Head lice were said to be fairly common in Baffin Island and I saw several cases of this at Cape Dorset. Scabies was common in some parts and, as we have seen, led to several deaths in the Clyde River district. A family with very ugly looking legs from this cause and the consequent irritation came from Igloolik to Chesterfield for treatment.

Boils and carbuncles were universal. Most adults carry on their bodies the scars of former trouble from these. On one of my trips I was called to see a woman with an ugly carbuncle on her shoulder. Her husband was dressing it with the flesh of a recently killed lemming, cut open down the belly and disembowelled. This may have been a native practice or it may have been learned from the whalers of the last century. In his "Helps for sudden accidents," recognized as the first treatise on First Aid, Stephen Bradwell, writing in 1633, recommended in the treatment of boils and carbuncles the application of "a live pigeon from which the entrayles have been removed" and such practice was current in the western world for upwards of 200 years.

It is said that the Eskimo could set in splints a fractured limb. On the Nascopie survey we saw one man who, as was evident from examination and from X-ray plate, had had a fracture of both bones of the forearm. It had set well and must have been splinted soon after the break. He denied having seen a white man, but could not or would not give any details of his treatment, probably hedged about with a mass of ritual and mystic dealings.

Of herbal remedies the Eskimo seems to have made no use. It is doubtful if he ever eats the willow, moss or other low growing and certainly unappetising plants, found in the Arctic, though the white man is said to have been saved from scurvy through them. Berries are few. It would seem probable that the Eskimo obtains his ascorbic acid and other vitamins from the amount of meat he eats (5-10 lbs. daily when the hunting is good). Maybe he partakes of the contents of the caribou stomach: certainly he eats the liver.

As with others not blest with a scientific concept, disease is mystical, due to the influence of evil spirits or of an enemy, or the punishment of the violation of some taboo. The medicine-man, priest or shaman, attempts the cure by exorcism, often going into delirium in the process, and always exacting a large fee, by the side of which the modern surgeon's fee would fade into insignificance. The shaman is either trained from boyhood or receives his call when on some lonely journey, even as it was revealed to the man on Belcher Island, who found himself to be God the Father, and with the aid of a friend who proved to

be the Holy Ghost, rid the world of several persons he disliked.

Infestation with worms is very common both in animals and men. The pin worm, the enterobius vermicularis, is almost universal, but the condition most dreaded is trichinosis. Evidence of infection with the trichinella spiralis was found by Dr. Brown and his associates of the Queen's University expedition on Southampton Island. During my stay at Chesterfield a man from Clyde River was reported on various occasions to be suffering from cramps and pains that seemed likely to be due to this condition. Dr. Brown found trichinella in two bears out of three examined and therefore issued a warning to white travellers to beware. The bear's life has long been taboo among the northerners. Eosinophilia was found frequently both by Dr. Rabinowitch in 1935 and by Dr. Brown recently. But the latter found no relation between the percentage of eosinophils and the pathological findings.

In 1935 Dr. Rabinowitch found the natives of Chesterfield and Port Burwell pale and anaemic, due assumedly to contact with the white man's way of life and to the temptations of the white man's food; whereas those further north, on Devon and Ellesmere Islands, were plethoric, with polycythemia and a tendency to nose bleeding. In blood tests on 42 men and 35 women between the ages of 15 and 40 I found the average red blood cell count for men to be 4.9 million per c.c.

In a clinical survey made of the natives living at Chesterfield and visiting the post, I found the average red blood cell count to be 4,900,000 per cu. mm. for men, 4,600,000 for women with haemoglobin counts of 12 grms. per 100 ml. for men and 11 for women. There were several who showed a haemoglobin content of only 10 grms. per 100 ml. and some who showed as high as 15. These counts are low, but were taken in the winter months from October to May and do not, I think, betoken any serious lack.

The blood pressure averages were those one might expect anywhere: 124 systolic for those under 40, 131 for those over 40 with the women slightly less than the men. The average diastolic was 75 for all groups. Some showed a definitely high pressure: one man, 68 years of age, had a systolic of 180 with a diastolic of 100; other men showed diastolic pressure of 100, 99, and 98 respectively. Several of the older natives showed definite hardening of the arteries or arteriosclerosis with significant eye-ground changes. One lady of 64 had two attacks characteristic of coronary occlusion.

Rabinowitch in 1935 found clinical evidence to disprove the alleged absence of arteriosclerosis among the Eskimo and was able to support this by X-ray pictures. He found it much more com-

mon among the Eskimos of the Hudson Strait and Bay who were partaking of the white man's diet, than among those of northern Baffin Island who presumably were not to the same degree exposed to this influence.

Dr. Malcolm Brown in a personal letter states: "We have also found the common degenerative diseases such as arteriosclerosis, coronary heart disease, osteoarthritis and benign hypertrophy of the prostate in just about the same incidence one would expect in a population with their age characteristics."

Of cancer the same can be said. Dr. Brown tells me that a death due to malignant disease occurred while his party was in Southampton Island, the diagnosis being confirmed by autopsy. In 1945 I sent a woman to The Pas on account of bleeding from the uterus. The surgeon found inoperable carcinoma.

According to the 1941 census more than half the Eskimo population in Canada is under 20 years of age, 518 per 1,000 as against 375 per 1,000 in the general population of Canada. Over 45 years of age there are 145 per 1,000 Eskimo as against 253 per 1,000 Canadians. Only 71 Eskimos out of a population of 7,205 had passed the 70 mark, 1% as against 4% Canadians. These figures agree very closely with those found at Chesterfield, Eskimo Point and Cape Dorset.

As Dr. Brown says: "The often made statement that these diseases (of degeneration) do not occur among the Eskimo have arisen because of the fact that a relatively smaller proportion of them reach the later decades of life." The elder members of the Eskimo population both in white settlements and in remote districts show definite evidence of degeneration.

There is, I think, no doubt that 40 is the prime of life of the Eskimo. By that age he has reached the peak of his prestige. As we have seen, his teeth begin to decay rapidly after that age, his strength diminishes though a few, through their experience and skill, have retained their lead till 50 or even later.

In Canada about 19% of all deaths occur before the age of 20; among the Eskimo as among the Indian, nearly 60%, and the main cause for this difference is infection. (In Canada in 1926 it was 35%).

Of 1,620 deaths of the Eskimos occurring during the nine years, 1940-48. The cause was unknown in 470. Of the other 1,150, 241 were attributed to tuberculosis, 200 to influenza, 112 to bronchitis and pneumonia, 109 to accidents.

Fifty years ago Osler could still write of tuberculosis as "The captain of the men of death": it has yielded its pre-eminence to diseases of the heart and of the arteries and to cancer, but still maintains its rank among the Indian and Eskimo races.

There is little doubt that tuberculosis, formerly known as the "white man's plague," was brought to the Eskimos by the whites. So far as I know there has been found no ancient skeleton showing tuberculous lesions of the bones. It may be that some of the disease was introduced through the Indians, but the races mix little; the occasional explorer may have brought it, but it seems more likely that the disease came in with the whalers of the last century who mixed more freely with the natives. Most of the Eskimos seem to have developed a considerable resistance to the infection. In the Nascopie survey of 1946, over 10% of those X-rayed showed signs of pulmonary tuberculosis, but in nearly half of these the lesions were healed. The actual figures were 1,347 persons X-rayed, 80 presumed to have signs of present disease, 67 of past disease, now calcified. Besides these there were several showing evidence of old tuberculosis of the bones, now healed. At Chesterfield men, whose X-ray films taken five years previously had showed extensive disease in both lungs were hunting and trapping regularly, later sporadically till, finally, they became bed-ridden but still lingered on for a couple of years before they died. It is my belief that had sanatorium beds been available for them, they would have survived and their lesions would have healed. Fortunately since the formation of the Indian Health services as a branch of the Department of National Health and Welfare in 1946, beds have been made available for a large number, at Clearwater near The Pas, at Moose Factory, and at Parc Savard in Quebec.

The resistance to tuberculosis is not universal. On Southampton Island the R.C.M.P. corporal told me in 1946 that during the past 18 months 6 persons had died of tuberculosis. In most cases the diagnosis had been confirmed by clinical examination and by X-ray at the American hospital. None had been ill for more than a few months. That situation may be related to a fresh infection introduced by the American troops, but that is mere surmise.

While tuberculosis is pretty well general throughout the Eastern Arctic it seems to be comparatively light in the more remote areas. Thus Dr. Lewis reported that it was "general but more in the Strait than further north." Dr. Brown tells me that the incidence of positive Mantoux tests at Igloodik was only one-third of that at Southampton Island. In a series of one hundred chest X-rays taken at Igloodik the only finding was one very questionable old lesion.

Dr. Simpson, District Medical Director of the Eastern Arctic, made a survey last year of the tuberculosis in southern Hudson Bay and in James Bay. Of 850 Eskimos X-rayed on the mainland he found 57 or 6.7 per cent to be definite

tuberculosis cases, with 5.6 requiring repeat X-rays, that is, were doubtful. Of those on the Belcher Island 1.3% were found to have definite tuberculosis and 3.1% of the X-rays called for repeating.

That the disease exists in the remote district of the Back River, north of Baker Lake, was brought home by the tragic case of a boy I brought to Winnipeg in May, 1946. Mr. Lunan, the Post manager at Baker Lake, had reported to me that this boy of 7 or 8 years of age had become blind gradually during the winter, so I arranged to meet him at Baker Lake. I found evidence of a tumor pressing on the optic chiasm. Through the good services of the R.C.A.F. I was able to bring this boy to Winnipeg for investigation and treatment. Unfortunately the operation revealed the tumor to be a tuberculoma, which denoted a fatal outcome. Mercifully this came shortly.

The trip was interesting for many reasons. For one thing the month was May and the temperature around 10 degrees above zero: below that the steel runners stick to the snow and thus hamper the going; and above 10 degrees the snow, which is laid over the steel, melts, especially when exposed to the sun. Curtains of caribou are hung from the side of the sled or komito, or, better, travel is done by night. Sleeps are taken during the day. On going to Baker Lake two days were spent, in knocking off the mud and sharpening the runners, and in digging up meat for the dogs from my driver's caches, whose camp site this was in summer; the second in seeking earth with which to make mud for the runners and in making mud pies to apply to the runners. It's no use getting impatient.

The Eskimo sled is up to 20 feet in length, about 18 inches in width, the runners are of solid 2 by 4, curved fore and aft. Across them are bound stout slats of wood with thongs of square flipper hide. The runners are shod with steel. As during the cold weather steel sticks to the snow, a 2-inch coating of mud is placed over it. Balls of this are made with earth, free of roots and stones, and hot water, then placed evenly on the runners of the upturned sled. After the mud has set the rough edges are smoothed off with a plane, the mud is iced by sprinkling water from the mouth in true laundry-man fashion, and then rubbed with a piece of bear fur. The icing has to be done each day before the start and often at the mid-day "mug up" too. Under favourable circumstances the mud remains for a long time. A few komotiks are shod with whale bone. Boxes of food, clothing and medicine, cans of oil, sacks of meat for the dogs, bed rolls and often a haunch of walrus or caribou are packed on the sled, caribou skins for the night laid over them and all bound down with strong thongs of hide. The whole is

compact, long, low and narrow, designed for transport and handling, not for comfort. The passenger sits on top, gliding idly along, hour after hour.

The dogs, 2 to 24 in number, (I usually had 12 to 14) are harnessed individually through a long thong of hide to a loop at the end of a twisted leash of hide that is attached to the sled. The leader, nearly always a bitch, is some twenty feet in front of the sled, the others range out on either side, forming a sort of fan shaped team. Each dog can pull about 100 pounds.

The driver, seated in front or running by the side with a whip long enough to reach the foremost dog, directs by whip and voice: "Jack, Jack," (forward, hurry), "Roof, Roof," (left, left), "Auck, Auck," (right, right). Occasionally when the dogs are tired or the light is poor, one man will run ahead, and another will drive.

Going is hard when the snow is soft as in early winter. It is difficult when the ground is rocky, for the traces catch on the rocks and the mud is knocked off. Much skilful handling is then needed, guiding the sled from the front of the runners or from the foremost piece of baggage on which is often fastened a cross bar for this purpose.

A special obstacle is the barrier formed by the piles of blocks of ice thrown up by the tide, often to a height of several feet, with free water or snow on the land side. Here is often a mad scramble, much pulling and pushing, amidst loud howling from the dogs. A similar barrier is the pressure ridge extending for miles across Baker Lake and probably other large lakes.

The average speed may be taken as 4 to 5 miles an hour, probably down to 3 in soft snow, with a good day's run of 30 miles, though I have done 50. The speediest I experienced was with a well matched team across the sea ice—20 miles in 2½ hours. The Eskimo counts the length of a journey in sleeps, not in days.

On Baker Lake we pitched our tent in the lee of the shore. It was uncanny to hear the loud cracking of the ice as we lay there. As we approached the post at the far end of Baker Lake, we were met by the factor in a snowmobile: the new meeting the old: a striking contrast. Not more striking, though, than the contrast between the nine-day journey from Chesterfield to Baker Lake and the few hour plane flight to Winnipeg. On arrival I was regaled with a large glass of H.B.C. rum, 40 over proof, a relic of Operation Musk-ox, it was a mighty welcome!

At the Children's Hospital there was a warm and happy reception for little Mikelak, my blind boy. Nurses and housemen gathered round to watch his first bath. He was afraid of the bed, so the mattress was placed on the floor. Altogether he was a fine and plucky youngster—fancy being blind in such strange surroundings. He made friends readily.



Of communicable diseases other than tuberculosis there have been many epidemics during the past few years. In the spring of 1944 diphtheria killed 80 natives out of a population of about 300 around Eskimo Point and Padley. Cape Dorset and the Foxe Peninsula with a slightly larger population lost 21 from meningitis in 1943, and 39 from dysentery, influenza and typhoid fever in little over 12 months from the fall of 1944 to that of 1945. In the winter of 1948 poliomyelitis was the cause of a serious outbreak in the Eskimo Point and Chesterfield areas, with 18 deaths and 60 persons paralyzed.

The diphtheria outbreak occurred during the war, when there was no medical officer at Chesterfield. An American medical officer flew into Eskimo Point from Churchill and examined many of the patients, but on his way back the plane crashed, apparently in the sea, and both he and his pilot were lost. Dr. Yule of The Pas visited the area in July and established the diagnosis as diphtheria, and gave some prophylactic treatments. Most of the deaths were, however, registered as due to septic sore throat.

When I visited Eskimo Point on my way from Churchill to Chesterfield in August, the epidemic had died out. There were no new cases, but many of the people still showed signs of paralysis of the palate, speaking with a nasal voice. One man who apparently at one time had lost all power in his arms and legs had regained that of his arms, but not of his legs. This seemed to me to be due most likely to sitting in a manner common to Eskimos with his legs bent under him, so I suggested that he be advised to lie straight out and if this did not work he could be sent to the hospital at Chesterfield. A few weeks later he arrived on the schooner and with no small difficulty was transferred from the hold of the ship to a bed in the hospital. There we had him lying straight, gave him a little massage and in three days he was able to move his legs easily, in a further three he was able to stand and then to take a few steps. It was not long before he was able to walk around freely and even to go hunting. You can imagine the kudos I derived from that miracle! It was a good beginning in my new practice. He returned to Eskimo Point by dog team in January and the next day walked 15 miles to take tea with his sweetheart, the wife of another man, whom he had been courting previously. There was no shooting or kniving, no divorce, just an amicable exchange of wives! This is no unusual occurrence. Promiscuity is not regarded as evil or the cause for shame. Indeed at some of the religious ceremonials the lights are put out and under the darkness men and women mate as they will. Catch who catch can. The difficulty arises when both women elect to stay with the one man, then the other

man loses face and kills not his rival but himself. In pagan times the big man had several wives. Even today a man not infrequently has two wives and a woman occasionally has two husbands. Parents frequently arrange marriages between their children while still young or even before birth, and from an early age the future man and wife sleep together. There appears to be no ceremony of holy matrimony. The sanctity of marriage and the errors of promiscuity are the first lessons taught by the missionary. As with the whites many years of happy union is now the rule, even with the offspring of previous alliances living in the same family.

Women are scarce at times. In 1946 the Southampton Islanders after a prosperous year came to Chesterfield, throwing their wealth around, buying all sorts of presents for the girls. Their chief quests were tobacco and wives. They nearly cleared the store of tobacco and cigarettes, of pipes and cigars, but only secured one woman, an elderly widow of 58, already showing signs of coronary disease with high blood pressure: something of a liability, but she could sew. As the Englishman is said to seek in his wife a good cook, so the Eskimo requires a good needle-woman.

In view of this epidemic of diphtheria and the danger of its spread northward through possible carriers, one of my first duties at Chesterfield was to give toxoid to as many natives as I could reach and to all who could come to Chesterfield. So when I visited Repulse Bay and Baker Lake, I instructed the Fathers and the traders in the art of inoculation and had a busy time at Chesterfield; encouraged by the Fathers of the Mission the natives came readily, but probably most of them had a hazy idea of what it was all about. A year later when I was away at Cape Dorset, our man Anulik was distressed about the sickness of his young daughter. My wife assured him I would be home soon and would make Ipki better. Anulik beamed "EEEE, you, doctor come Nascopie—me tired all time tired. Doctor me needle—Now me tired nowk." He attributed his gain in strength to the magic of the inoculations, forgetting the good food and the cod liver oil with which my wife had filled him.

On the discovery of an epidemic of typhoid fever at Cape Dorset, I was detailed to proceed there to attempt its control. The outbreak had occurred during the summer gathering at ship time, but on arrival I found that most of the natives had dispersed to their various camps taking the sick with them. Some of the nearer camps I was able to visit in the Peterhead in September and October, but for the others I had to wait till December when the snow was firm enough for travel by dog team and sled. Usually I travelled with two natives, but sometimes with a

whole family. The journey took 2 to 6 days. At the nearer camps we stayed over night only, but at others I stayed ten days in order to give the two-shot course of typhoid vaccine. In the camps I had my own igloo, but was able to spend most of the day visiting the natives, taking tea with them, giving them tobacco, for they are rabid smokers; the men of cigarettes, the women pipes. Most of them were fond of music: many had an accordion. Sometimes I gave the vaccine in my own igloo. I shall never forget my first experience: we had no porch and had to keep the entrance open for the coming and going of my patients. The chief trouble was to keep the vaccine, whether in the bottle or in the needle, from freezing. Later I usually arranged to perform the vaccinations in the larger houses of the chiefs. These were built of canvas stretched across a frame of lumber and covered with thick walls of snow and a lighter roof of snow, usually measuring 20 by 30 feet or so.

These trips gave me a closer view of the Eskimo life and habits than I would otherwise have had and confirmed my love for the people, my admiration for their honesty and fidelity, my realization of their kindness and of their care for those in their charge. They are a fine people, facing hardships with a will and a skill, adapting to their use the tools and the boats of the white man.

The white man has brought the Eskimo many amenities of which he is not slow to take advantage. He has been taught to read and write. He has been given books, including the New Testament, the Anglican prayer book, and a magazine,

supplied by the Roman Catholic diocese. He has been furnished with medicine to remedy his aches and pains, has been relieved of the suffering and the starving of the famines and scarcity once so common and now so rare, aid has been found for the children and for the aged, so that child murder and suicide of the old are now, practically speaking, things of the past. Color has been brought into his life—gay clothes and trinkets for the women, playthings for the children and for adults, and for all clothing more suited to the warmer months of the short summer. The oil lamp and primus stove have replaced the seal oil lamp in many igloos, the outboard motor and the Diesel engine have ousted the paddle and the oar: the gun has made obsolete the bow and arrow.

But, to offset these blessings in the train of the white man has also come a heavy toll of disease. Tuberculosis is active and epidemics are virulent when they strike; but there is good reason to hope that these will be brought under control even as they have been for the whites.

With education the Eskimo will learn to select the beneficial items in the white man's diet and not merely the tea and tobacco, the flour and the sugar that he demands today. Already there is a tendency to buy more milk. And he will learn the rudiments of sanitation.

By the combined efforts of the trader and the police, the missions and the health services we may then look forward to a bright future for our gallant friends that will justify the white invasion of the Arctic.

### Date of Annual Meeting

The proposal of the British Columbia Division to hold annual meetings in the Spring rather than during the Fall, as at present, did not commend itself at once to the Executive Committee. The provinces of Quebec and Ontario usually hold their meetings prior to that of the Canadian Medical Association, while the Maritimes and Western meetings are held in the Fall. Since the Western meetings are visited by a C.M.A. travelling team, alteration by one province would affect the working arrangement with other provinces.

### Position Vacant

Three doctors required to expand the services of The Port Arthur Clinic, Doctor with F.R.C.P. or equivalent, starting salary \$8,000.00 per annum. Doctor with minimum of one year's rotation service as an intern to engage in General Practice. Doctor to engage in Practice and Anaesthesia with a minimum of one year's experience in anaesthetic work. All positions to be filled on a permanent basis as soon as possible. Monthly salary with annual increases and ultimate admission to Partnership. Car and all professional expenses provided. Direct inquiries, giving full particulars regarding age, training, qualifications, experience, references, marital status, salary requirements, etc., to the Business Manager, the Port Arthur Clinic, Port Arthur, Ontario.

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# Manitoba Medical Association

(Canadian Medical Association, Manitoba Division)

## 1951 COMMITTEE REPORTS

### Executive

*To the Executive Committee and Members of  
The Manitoba Medical Association*

1. If the 1908 date on the crest is correct and one meeting has been held yearly since that time, this is the 44th Annual Meeting. The date was adjusted to follow that of the other western provinces, and marks a return to the Fort Garry Hotel following an absence of some years. The suggestion of a sister-province that western meetings be held in the spring was not considered practical. Hotel reservations have already been made for 1952 and early appointment of committees has been recommended. In 1953 the Canadian Medical Association meets in Winnipeg.

2. A hearty welcome is extended to our guests who are here for the first time, as well as to those who are friends of long-standing, to those from neighbouring provinces and states as well as our own members, and to the commercial and scientific exhibitors.

3. The Canadian Medical Association is represented by the President, Dr. H. B. Church, Aylmer, Quebec, and Dr. A. D. Kelly, Toronto, recently appointed Deputy General Secretary. Members of the travel team are Doctors G. R. Brow, Montreal; E. C. Janes, Hamilton, and T. Statten, Montreal. Dr. W. G. Hildebrand, Menasha, Wis., will address the General Practitioners' dinner on Wednesday, while His Honour Judge J. M. George, K.C., Morden, will be a luncheon speaker. Dr. Max Wintrobe, Salt Lake City, Utah, an illustrious alumnus of the University of Manitoba, and first holder of the Gordon Bell Memorial fellowship, is returning to Winnipeg.

4. "The Executive Committee shall be the responsible agent of the Association for the transaction of its affairs; it shall direct and integrate the work of all committees and shall promptly report the proceedings of each meeting to the affiliated District Societies and submit a comprehensive report at the Annual Meeting." This report covers the twelve-month period ending September 30th, during which time there have been nine meetings with an average attendance of sixteen members. The average time per meeting was four hours, a total of 576 General Practitioner and Specialist man hours. Mimeographed copies of the minutes have been circulated to each member of the Executive Committee, including the representative elected by each of the District Medical Societies affiliated with the Association. In addition to the regular executive meetings there are approximately twenty-five standing and special committees and much time and effort has been expended in committee work, the full magnitude of which is not always apparent to members of the Association. This fine co-operation of committee members has been greatly appreciated.

5. Office, Equipment, Secretarial Assistance. Proposed alterations were deferred in the hope that enlarged quarters might become available, but with little prospect of the latter the work should proceed. The monthly charge for office rental has recently been increased. Some new equipment has been purchased, including a "Revere" Tape Recorder which will be in operation during this meeting. Considerable use is made of the Medical Arts Club Rooms for committee work, and a contribution was made to the magazine fund. There have

been changes in junior staff personnel and increasing demands on senior members have been carried out with devotion often beyond the call of duty. Salary adjustments have been necessary to meet rising costs of living.

Manitoba Medical Review: A full-scale discussion of the status of the Divisional publication at two meetings of the Executive Committee resulted in a unanimous vote of confidence in the Editor and Business Manager.

6.

The Aims and Objects of the Association are "to enable the medical profession of the Province to fulfil, by co-operation and unified action, those responsibilities to society which its members cannot meet by individual action alone, specifically and especially:

1. To enlist and employ the moral influence of the united profession to maintain fair relations and equality of opportunity among its individual members." At the last annual meeting there was considerable discussion of contract practice, and the Executive was asked to appoint a committee to study and report on the matter. Such a committee was formed. The Code of Ethics says, "while not in itself unethical, contract practice becomes so if there is solicitation for patients, underbidding, interference with the choice of physician, or if the compensation is so low that adequate service cannot be given, or if professional services are made to yield profits to controlling lay groups." Also "whatever is right and becoming for the individual is equally right for any association of physicians in clinics or other groups, and whatever is obligatory upon the individual is equally obligatory upon the group."

7.

2. To include and integrate as far as possible all other organized special groups in their proper relation to medicine as a whole, to help and co-ordinate their activities and mediate and harmonize their relations."

District Medical Societies—Apart from the largest of the District Societies which meets monthly throughout the winter season, the most requests for speakers were received from the Southern District. Other societies organized local or district meetings when the programs were provided by members, or by movie films. The possibility of arranging a rotational system of meetings has yet to receive approval of the district societies themselves.

The Obstetric and Gynaecology Section was added during the year, bringing to fifteen the number of component or affiliated groups. Interesting activities may be reported. Some representatives of the Anaesthetic group have decided to work on fee-for-service basis rather than as salaried hospital employees. The Eye, Ear, Nose and Throat Section refused to negotiate directly with a union concerning fees, and referred the matter to the Economics Committee.

The General Practitioners Association has been active and secretarial assistance in sending circular letters to members has been provided by M.M.A. on several occasions. The Group nominated, and the M.M.A. Executive concurred in the selection of a representative to the C.M.A. Section of General Practice.

On the advice of the Internist Section the decision was taken that the formation of a provincial division and of a Canadian Diabetes Association was inadvisable at this time, but that reconsideration would be given, if and when such an organization was formed. The Winnipeg Orthopaedic Society suggested that a member be appointed to two of the Association Committees, the composition of which had been determined at the beginning of the year. The Radiological Section

sought incorporation by means of a private bill introduced into the Legislature, but withdrew it when further study was requested by the Executive. Many groups submitted suggestions concerning fees for consideration of the Fee Committee and of the Negotiating Committee, Workmen's Compensation Board. Grants were made to assist the dominion-wide meetings of the Canadian Society of Laboratory Technicians, also the Canadian Society of Radiological Technicians which were held this year in Winnipeg. Circulars were sent from the Association office for Tisdall Memorial Lectures arranged by the Dean of the Medical Faculty and the Postgraduate Refresher Course of the University of Manitoba, and secretarial assistance was rendered for the Canadian Federation of Medical Women, Manitoba Branch.

8.

"3. To help in the advance of all branches of medical service and to press for recognition of such attainment in proportion to its scientific and social value." In addition to co-operation to the many agencies, federal, provincial, municipal and local, the Association has been active in advancing the cause of voluntary prepaid medical care. A resolution carried at the last Annual Meeting proposed that the Manitoba Medical Service be requested to alter its contract to bring it more in line with other successful plans operating across Canada to provide national employers with a dominion-wide contract. Manitoba Medical Service is the only profession-sponsored plan operating in the province. On its Board of Trustees are fourteen medical members nominated by this Association, and although the Board is autonomous it does look to this body for guidance in some matters of policy. It is anticipated that the President (who is also chairman of the newly formed co-ordinating body named Trans-Canada Medical Service) and the Treasurer will be present at the annual business session to bring members up-to-date on developments in this field.

Workmen's Compensation Act: Short notice was received of the opening of the Act and of committee sittings to receive representations. The Committee of Fifteen was hurriedly called, and selected a Sub-Committee of four to prepare and present the brief on behalf of the profession. The presentation was not ready for the date set for public hearing and was sent by the Solicitor to the Minister of Labour. A reply was forwarded by the Commissioner to the Minister of Labour. The amendments presented to the Legislature altered the notification time for hernia and provided for "second injury."

9.

"4. To maintain by moral influence the observance of professional etiquette in relation among its members and to make such conformity a requirement for membership in the association." Several inquiries from members concerning various aspects of medical practice have been welcomed. Although a Grievance Committee has not been set up, several requests have been received during the year from patients who felt they had reason to complain concerning the conduct of a case by a physician or of the fees charged. Many were resolved by referring the person directly to the doctor, in person or by letter. Some cases also of differences between physicians and hospitals, board or nursing staff members, have been attempted without full rehearsal before the Executive Committee.

10.

"5. To initiate and support measures of public benefit where the scope of the individual member is restricted by the personal rules of the traditional ethical code." During the year the Executive Committee studied an address entitled "A New Conception of Health Plan for Australia," by Sir Earle Page, the Commonwealth Minister of Health for Australia. This plan envisages co-operation between government, insurance and voluntary agencies to provide complete medical, hospital and pharmaceutical benefits for the whole population on a contributory basis. During his visit to Winnipeg in August, Sir Earle was guest of the Executive Committee, and members of the Board of Trustees, Manitoba Medical Service, attended.

The Public Relations Committee of the Association were responsible for the preparation of a statement concerning medical licensure for presentation at a meeting of the Winnipeg Medical Society.

The President and Executive Secretary attended the opening of the new hospital at Hamiota and brought the greetings and good wishes of the Association.

11.

"6. To co-operate with humanitarian efforts to furnish medical service to the whole population and to press for the highest possible standard in such service." Considerable time was spent in discussion of the relationship, past, present and future of lay organizations of federal, provincial or municipal scope where funds are obtained from government grant and private philanthropy. The Canadian Arthritis and Rheumatism Society formed in 1948 with Canadian Medical Association approval was approved provincially, but some exception was taken to the method of campaign, and the District Societies were advised to clear campaigns of this nature through the Association.

A full-scale discussion was carried out of the activities of the Canadian Foundation for Poliomyelitis which was investigated provincially and federally, and the Executive Committee of the C.M.A. considered a request that the federal Department of National Health and Welfare endorse or withhold endorsement of all lay-medical financial appeals.

The Society for Crippled Children of Manitoba with four members on the Medical Advisory Board requested alternate members, and raised the question why physicians should be reimbursed for services which have been rendered gratuitously in the past by physicians when the patient was unable to meet the expenses incurred. "While God's poor should always be cared for with charity it should be understood that the physician gives his services as an act of courtesy but not of obligation."

A drive for funds was conducted by the Multiple Sclerosis Society, and further data was collected this summer to augment a report received at the last annual meeting of our Association. The Association is not represented on this Society. The Red Cross Society conducted the annual appeal for funds, stressing the Free Blood Transfusion Service. Medical men have a real awareness of the value and may assist in the maintenance of this vital service by encouraging donor contribution and by reducing requisitions to the absolute minimum consistent with patient requirements.

The President accepted appointment to the Medical Advisory Committee of SHARE, and attended the dinner of the Canadian Life Underwriters' Association. The Executive Secretary represented the Association at the Second National Disaster Conference organized by the Red Cross Society and at the organizational meeting of the Rehabilitation Board, Division of Medical Services, Welfare Council of Greater Winnipeg. He also attended annual meeting functions of the Manitoba Association of Registered Nurses, the Third Biennial Western Regional Conference of Social Workers, and the Victorian Order of Nurses, but was unable to accept the invitation of the Associated Hospitals of Manitoba. He is the representative of the Association on the Provincial Advisory Committee for Civil Defence.

12.

"7. To assist and support constituted authorities in matters within the field of medicine." Three members nominated by this Association sit as members of the Advisory Commission under the Health Services Act. One retires each year, and since no member may sit longer than two consecutive three-year terms, replacement will be required for one member who has given faithful service since the formation of the Commission. Amendments to the Health Services Act at the last session of the Legislature eliminated the representative of the University of Manitoba and included one from the Associated Hospitals of Manitoba to replace representation of the latter body on the Hospital Council which was disbanded. Enlargement of Health Unit boundaries and restoration to the local practitioners of several procedures of medical practice formerly

carried out by him has also been recommended by the Department of Health and Public Welfare. Co-operation was requested by the same Department on behalf of the federal body in the conduct of the Sickness Survey.

Three members of the Association were named by the Health Minister members of the Health Survey Committee and a questionnaire was sent out in the summer of 1950 to all members of the profession. An interim report was presented to the subcommittee on medical care and approval of the Association sought before a final report should be prepared. Insufficient time was given for considered opinion. One paragraph might be of interest, "It will be seen that of the 751 doctors actively practising their profession in the province in 1950, 630 or 84% graduated from the University of Manitoba. It would appear that this University could more than adequately meet the need for doctors within the province providing there is sufficient inducement for them to remain here after graduation." No information has been received of the date on which the additional committee reports will be available, but they will be awaited with interest.

13.

In March the Honourable Minister of Health, two deputies, and the Honourable Minister of Education visited the Executive Committee to seek co-operation in the matter of securing physicians for the few areas in the province which have not been able to attract and retain practitioners. It was agreed that there was no shortage of doctors which guarantees of salary, living and work conditions might not remedy without any increase in medical student intake or the importation of large numbers of doctors from the British Isles or from Europe. The point was made that taxpayers whose children were unable to gain entrance to Medical College might not be kindly disposed to the admission of large numbers of foreign graduates.

14.

Civil Defence: Since direction of the organization for Civil Defence was transferred at the federal level to the Department of National Health and Welfare, and further decentralized at the provincial and municipal levels the profession is awaiting some clarification of the role which it will be expected to play in the organization scheme which has been designed to meet any emergency. Educational measures have already been undertaken in the Manitoba Medical Review.

15.

*Canadian Medical Association:* The activities of the federal body are associated with the combined problems of the ten Divisions. The 82nd Annual Meeting was held June 18-22 in Montreal, and the Manitoba Divisional representatives to General Council were: Doctors B. D. Best, Eyjolfur Johnson, A. M. Goodwin, A. T. Gowron, R. Lyons, M. T. Macfarland, J. McKenty, J. C. Rennie, R. W. Richardson and C. W. Wiebe. Dr. J. D. Adamson also sat as a Committee Chairman.

16.

One of the advantages of joint membership is that every member receives a copy of the monthly publication of each Association. The Canadian Medical Association Journal for September, 1951, contains a complete account of the proceedings and no extensive reproduction has been undertaken. Various matters deserve mention: one, that rising costs may necessitate an upward revision of the fees, another was the sponsorship of a conference which resulted in the inauguration of a co-ordinating body for the prepaid medical care plans, to be known as Trans Canada Medical Services.

Dr. H. S. Sharpe, Brandon, was named senior member on the recommendation of this Division.

17.

It was agreed that the Canadian Medical Association may accept subscriptions to the Journal from non-members of the Association at a fee not less than \$10.00 per year. Manitoba had approved the payment of a registration fee at annual C.M.A. meetings. Discretionary powers were given to the Executive Committee to levy such a fee, not exceeding \$5.00 per member.

A resolution of the Executive Committee "that the principle be established that the receipt of social security funds does not of itself entitle the recipient to government-sponsored medical care" was adopted by Council.

The role of the Defence Medical and Dental Services Advisory Board concerning means of recruiting medical officers for the Armed Forces was outlined. A definite recommendation for unification of the medical services has been proposed, but no action reported.

18.

Notice that income derived from partnerships was considered net for income tax purposes was noted. In connection with amendments to the Income Tax Act, which provides as follows: (a) Travelling expenses that the officer or employee was required by the contract of employment to incur; (b) Professional membership dues where the officer or employee was required by the contract of employment to maintain his professional status; (c) Office rent or salary to an assistant or substitute required by the contract of employment to be paid by the officer or employee; (d) Supplies consumed directly in the course of the employment for which the officer or employee was required by the contract of employment to pay; or (e) Union dues.

A resolution of General Council recommended that "professional dues be interpreted to include all fees in professional societies." No information of the Minister's concurrence is available.

19.

Recommendations of the Joint Committee of the Canadian Medical Association, the Canadian Arthritis and Rheumatism Society and the Canadian Rheumatism Association to implement the recommendations of the C.M.A. Arthritis Survey Committee were forwarded to each Division for approval, including that of the Department of Health and Public Welfare and the Teaching Hospitals connected with Medical Schools.

Manitoba Division had concurred that the permanent home of the Canadian Medical Association should be in Toronto, but the committee report was tabled.

Council agreed that C.M.A. should take the lead in standardization of hospitals, should seek co-operation of other bodies, and methods of finance, and that the Executive Committee should decide concerning participation in the Joint Commission proposed in the U.S.A.

Council requested the Executive Committee to appoint a special "Endorsation Committee for Medico-Lay organizations."

20.

The Public Relations Committee recommendations were approved by Council as follows: (a) Sustain the budget of the Public Relations Committee by amounts adequate to do a long-term job; (b) Provide adequate publicity in the press, on the radio and in printed matter; (c) Retain Public Relations counsel; (d) Develop divisional and regional Public Relations committees to work in collaboration with the central committee.

Since a C.M.A. section on Industrial Medicine has been established, the need for the standing committee on Industrial Medicine is not as apparent and may be altered by the new Executive Committee.

Council gave approval to a plan for pension and retirement allowances for C.M.A. staff members and asked the Executive Committee to study, with other interested groups, the matter of setting up a Retirement Plan for members of the Canadian Medical Association.

*Eyjolfur Johnson,*

*President.*

*C. B. Schoemperlen,*

*Honorary Secretary.*



## Honorary Treasurer

To the President and Executive of  
The Manitoba Medical Association:

21.

Herewith certified financial statement from our auditors, Messrs. Thornton, Milne and Campbell, for the year 1950, also supplemental statement, prepared by the Association office, to August 31st, 1951:

19th January, 1951.

To the Members,  
Manitoba Medical Association,  
Winnipeg, Manitoba.

Dear Sirs:

In compliance with your request, we have audited the books and accounts of your Association for the year ended 31st December, 1950, and submit herewith our report thereon, together with the following relative financial statements:

### EXHIBITS:

"A" Statement of Assets and Liabilities as at 31st December, 1950.

"B" Statement of Revenue and Expenditure for the year ended 31st December, 1950.

The operations for the year, as set forth in Exhibit "B," have resulted in an excess of Revenue over Expenditure amounting to \$967.44. Membership fees collected are in accordance with duplicate receipts on file and were reconciled with the membership cards issued. The Association also received the customary sums of \$200.00 and \$75.00 per month from the College of Physicians and Surgeons and the Winnipeg Medical Society respectively, covering their portion of the general office expenses. All expenditures have been properly authorized and satisfactory vouchers were produced for our examination.

Relative to our examination of the various items comprising the Statement of Assets and Liabilities, marked Exhibit "A," we would comment as follows:

CASH ON HAND AND IN BANK, \$6,545.86: We did not count the cash on hand. The cash in bank was reconciled with a certificate received from the Bank of Montreal, subject to an allowance for outstanding cheques amounting to \$1,269.59, as shown by the books.

ACCOUNTS RECEIVABLE, \$788.39: All accounts receivable are considered collectible in full.

INVESTMENTS, \$8,107.12: We examined the Bonds and found same to be in order duly registered in the name of the Association. During the year, \$2,000.00 Government of Canada 3% 1951 bonds were redeemed at a profit of \$20.00. The gain has been credited to Surplus, as shown in Exhibit "A." We are advised that the proceeds from the above bond redemption will be reinvested in the ensuing period.

All bond interest on a received basis has been duly accounted for on the books of the Association.

In conclusion, we wish to report that we found the records satisfactorily kept and that all our requirements as auditors have been fully complied with.

Yours very truly,

THORNTON, MILNE & CAMPBELL,  
Chartered Accountants.

22.

Exhibit "A"

### Statement of Assets and Liabilities As at 31st December, 1950

#### ASSETS

##### Cash:

Petty Cash on Hand .....\$ 20.00  
Bank of Montreal ..... 6,525.86  
.....\$ 6,545.86

##### Accounts Receivable:

Review Advertisers .....\$ 731.01  
College of Physicians and Surgeons:  
Extra Mural Expenses .....\$ 46.88

Fee Taxing Committee,  
Workmen's Comp. Board ..... 10.00  
Sundry ..... .50  
..... 57.38

788.39

##### Investments:

(Market Value, \$8,301.25)

Province of Manitoba:	Par	Cost
4½ % 1956 .....	\$ 2,000.00	\$ 1,957.12
Government of Canada:		
3 % 1957 .....	1,000.00	1,000.00
3 % 1959 .....	500.00	500.00
3 % 1963 .....	500.00	500.00
3 % 1966 .....	4,000.00	4,150.00

8,107.12

Office Furniture and Equipment .....\$ 1,111.16  
LESS: Reserve for Depreciation ..... 1,111.16

\$15,441.37

#### LIABILITIES

Account Payable, Review .....\$ 26.68  
Fees Collected in Advance ..... 33.44

##### Surplus Account:

Balance as at 31st December, 1949 .....\$14,393.81

ADD: Gain on Redemption of Bonds:

Government of Canada  
3 % 1951 .....\$ 20.00

Excess of Revenue over

Expenditure, as per

Exhibit "B" ..... 967.44

987.44

15,381.25

\$15,441.37

23.

Exhibit "B"

### Statement of Revenue and Expenditure For the year ended 31st December, 1950

#### REVENUE

##### Fees Collected:

497 Members at \$25.00 .....	\$12,425.00
7 Members at 12.50 .....	87.50
109 Members at 5.00 .....	545.00
8 Members at 2.50 .....	20.00
43 members at 10.72 .....	460.96
10 Members at 5.36 .....	53.60
6 Members at 22.00 .....	132.00
1 Member at 7.50 .....	7.50
2 Members at 3.00 .....	6.00
3 Members at 2.00 .....	6.00

686 .....\$13,743.56

ADD: Sundry Fees, 1949 ..... 38.50

\$13,782.06

College of Physicians and Surgeons ..... 2,400.00

Winnipeg Medical Society ..... 900.00

Interest on Bonds ..... 300.00

ADD: Premium on U.S. funds ..... 4.39

304.39

Refund of Expenses by

Dr. M. T. Macfarland ..... 115.40

\$17,501.85

#### EXPENDITURE

##### Salaries:

Dr. M. T. Macfarland .....	\$4,800.00
H. M. Brown .....	2,005.00
J. Allison .....	1,675.00
B. J. Wright .....	1,345.00
O. Slonecki .....	726.24

	\$10,551.24
Expense Allowance—Dr. Macfarland .....	1,200.00
Honorarium—Dr. Hossack .....	900.00
Rent .....	1,476.00
Printing, Postage and Stationery .....	589.71
Office Furniture and Equipment .....	23.45
Telephone and Telegraph .....	206.30
Miscellaneous Expense .....	28.92
Business Taxes .....	132.18
Audit Fees .....	100.00
Light .....	54.99
Bank Charges .....	5.65
Machine Servicing .....	40.00
Legal Expense .....	50.00
Subscriptions .....	25.35
Office Expense .....	36.11
Unemployment Insurance .....	71.04
Travelling Expense .....	294.81
Annual Meeting .....	3,885.81
LESS: Rental of exhibit space .....	3,170.00
	715.81
Executive Luncheons .....	32.85
	\$16,534.41
Excess of Revenue over Expenditure for the period .....	967.44
	\$17,501.85

25.

## Statement of Revenue and Expenditure January 1st to August 31st, 1951

## REVENUE

FEES COLLECTED:		1951	
490 Members @ \$25.00 .....		\$12,250.00	
½ year @ \$25.00 .....	2 Members @ 12.50 .....	25.00	
	105 Members @ 5.00 .....	525.00	
½ year @ \$ 5.00 .....	1 Member @ 2.50 .....	2.50	
Recent Grad. ....	45 Members @ 10.72 .....	482.40	
Recent Grad., ½ Year .....	20 Members @ 5.36 .....	107.20	
Combined Fee .....	5 Members @ 22.00 .....	110.00	
Combined Fee .....	3 Members @ 2.00 .....	6.00	
	671 .....	\$13,508.10	
Plus 6 Non-Resident Members .....	@ 2.00 .....	12.00	
Plus 1950 Arrears .....		57.00	
Less 1 1951 paid 1950 .....		5.36	
		51.64	
		\$13,571.74	

Brought Forward from Fees .....	\$13,571.74
College of Physicians and Surgeons .....	1,600.00
Winnipeg Medical Society .....	600.00
Interest on Bonds .....	108.27
Secretarial Services to Post Graduate Committee .....	36.00
	\$15,916.01

## EXPENDITURE

Salaries:	
Dr. M. T. Macfarland, including expense allowance .....	\$ 4,000.00
Miss H. M. Brown .....	1,667.50
Miss Jean Allison .....	1,035.00

24.

## Supplemental Statement of Assets and Liabilities January 1st to August 31st, 1951

## ASSETS

Cash:	
Petty Cash on Hand .....	\$ 20.00
Bank of Montreal .....	10,417.34
	\$10,437.34
Accounts Receivable:	
Review Advertisers .....	1,058.44
Advance Travelling Expenses, J. G. Whitley .....	300.00
College of Physicians and Surgeons: Extra Mural, Post Graduate .....	233.28
Fee Taxing Committee, W.C.B. ....	80.00
	1,671.72
Investments .....	10,072.12
	\$22,181.18

## LIABILITIES

Accounts Payable:	
Dr. J. C. Hossack, Honorarium .....	\$ 600.00
Mr. J. G. Whitley, Review Account .....	333.77
Deferred Income:	
Annual Meeting, Exhibitors' Deposits .....	2,560.00
Surplus Account:	
Balance as at December 31st, 1950 .....	\$15,381.25
Add:	
Excess of Revenue over Expenditure .....	3,306.16
	18,687.41
	\$22,181.18

## COMPARISON

1950	1949
487 @ \$25.00 \$12,175.00	480 @ \$27.00 \$12,960.00
2 @ 12.50 25.00	3 @ 13.50 40.50
103 @ 5.00 515.00	108 @ 7.00 756.00
4 @ 2.50 10.00	1 @ 3.50 3.50
39 @ 10.72 418.08	42 @ 11.50 483.00
5 @ 5.26 26.80	4 @ 5.75 23.00
6 @ 22.00 132.00	7 @ 24.00 168.00
1 @ 2.00 2.00	2 @ 4.00 8.00
2 @ 4.97 9.94	
1 @ 2.00 2.00	647 \$14,442.00
1 @ 7.50 7.50	less refund 7.75
651 \$13,323.32	
Plus 1949 Arrears 38.50	
Plus Refund	
C.M.A. 10.00	
Plus Foreign Exchange 1.50	
\$13,373.32	\$14,434.25

Miss Barbara Wright .....	1,111.75
Miss Olive Slonecki .....	179.00
Miss Lillian Johnson .....	468.50
Miss Lorna Zawadski .....	54.00
	\$ 8,515.75
Honorarium, Dr. J. C. Hossack .....	600.00
Unemployment Insurance .....	54.78
Rent .....	984.00
Printing, Postage and Stationery .....	320.87
Office Furniture and Equipment .....	446.90
Tape Recording Machine and Attachments .....	368.20
Telephone .....	157.55
Audit Fees .....	100.00



*Ortho* is proud to announce ...

the new simple effective method of control

*Preceptin*  
VAGINAL GEL

**used without a diaphragm**

**built on a new base**

To replace the function of the diaphragm, a new and better physical barrier, incorporated into the Gel itself, was needed — one that could be depended on to cover the cervical os effectively. The new base of PRECEPTIN, achieved by blending recently developed synthetic gel-forming agents, meets this requirement, making it possible to do away with the diaphragm.

**clinically proved**

Of 3270 patients using  
Preceptin Gel — 99.2 percent  
received complete protection.

**Preceptin's new base:**

1. adheres well to the moist cervical mucosa — forms a persistent, adherent physico-chemical barrier over the cervical os.
2. is more miscible with semen — means greater spermicidal potency.
3. rapidly releases active spermicides — enables Preceptin to kill sperm on contact.



COMPOSITION: Preceptin contains the active spermicidal agents p-Diisobutylphenoxypolyethoxyethanol and ricinoleic acid in a synthetic base buffered at pH 4.5.

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(Canada) Limited — Toronto, Ontario



Bond on Treasurer .....	5.00
Gold Medal .....	62.00
Business Tax .....	132.18
Subscriptions, Medical Journals .....	34.70
Servicing Typewriters .....	30.20
Light .....	36.29
Executive Luncheons .....	23.50
Bank Charges .....	4.78
Entertainment .....	76.40
Travelling Expenses .....	217.95
Donations:	
Canadian Society of Laboratory Technicians .....	\$200.00
Canadian Society of Radiological Technicians .....	100.00
Medical Arts Club-Magazine Subscription .....	15.00
	315.00
Miscellaneous .....	123.80
	\$12,609.85
Excess of Revenue over Expenditure for the period .....	3,306.16
	\$15,916.01

26.

### Estimated Cost of Operation From August 31st to December 31st, 1951

#### EXPENDITURE

Salaries .....	\$ 4,080.00
Rent (increase from \$123.00 to \$139.80 as from Sept. 1, 1951) .....	559.20
Telephone and Light .....	80.00
Printing, Postage and Stationery .....	100.00
Miscellaneous Expenses .....	200.00
Annual Meeting .....	600.00
	\$ 5,619.20

#### REVENUE

College of Physicians and Surgeons .....	\$ 800.00
Winnipeg Medical Society .....	225.00
Bond Interest .....	192.50
	\$ 1,217.50
Estimated deficit for period .....	\$ 4,402.70
Less Excess of Revenue over Expenditure January 1st to August 31st, 1951 .....	3,306.16
Estimated deficit for year 1951 .....	\$ 1,096.54

27.

During the past few years and until the year 1950 our revenue actually exceeded our expenditure and we were left with a bank balance. However, in 1951 our expenditure exceeds our revenue, and we will operate at a loss of approximately \$1,500.00. It is, therefore, quite obvious that at our present rate of spending this balance will very soon be dissipated. If you will examine the statement, you will see that, on the basis of our present membership, we cannot expect that our revenue will cover our expenditure. Further, it is quite probable that the national office will tax each Division an additional \$2.00 per member, an additional cost to our Division of \$1,400.00 per annum. Therefore, it is obvious the only possible way in which we can remain solvent is to increase our membership dues. We are actually one of the last provinces which has not raised its dues within the past two years. Even a cursory examination of our statement will show that our expenses during 1951 differed very slightly from those in previous years but the additional cost for all necessary services accounts for the increase. We further envisage the spending of larger sums of money for Public Relations. The national office is doing everything it can in this respect but it is still incumbent upon each Division to acquaint the public with the

work of the profession. In addition, we can expect our grant from the College of Physicians and Surgeons to be reduced from the present \$200.00 per month because of a change in office arrangements. I am sure I need not enlarge further on rising costs; we are all fully aware of them.

One other matter I propose to bring to your attention. Members of the profession who are on a salary have in the past paid \$15.00 membership fee. Of this sum \$10.00 is paid to the national office and \$5.00 remains with the Division. If we have to pay to the national office a further \$2.00, we will then be left with only \$3.00 for such membership, and this does not even cover the cost of the Manitoba Medical Review.

28.

Mr. Chairman, I would, therefore, move:

THAT (1) for all those members engaged in private practice, (2) for those members who have a municipal contract and who also are engaged part-time in private practice, and (3) for those members employed by a person, or group, submitting accounts on a fee-for-service basis, the Annual Dues for Membership of the Canadian Medical Association, Manitoba Division be increased from \$35.00 to \$50.00 per annum;

THAT (1) for recent graduates of two years' standing, and (2) for those members who are employed on salary and unable to deduct for income tax purposes, the Annual Dues for Membership be increased from \$15.00 to \$25.00 per annum.

All of which is respectfully submitted.

Ruin Lyons, M.D.,  
Honorary Treasurer.

### Membership

To the President and Executive of  
The Manitoba Medical Association:

29.

I wish to present the following report to date:

There are 793 doctors in the Province of Manitoba

555 Winnipeg

238 Rural

682 Active Paid-up Members .....	479 Winnipeg
	203 Rural
8 Senior Members .....	4 Winnipeg
	4 Rural
1 Honorary Member .....	1 Winnipeg
40 retired or over 70 years .....	30 Winnipeg
	10 Rural
83 Membership Fees Unpaid .....	56 Winnipeg
	27 Rural

814

793

21 Paid fees who have since left province, or are deceased.

30.

Of the 83 doctors whose fees are unpaid, 27 are new registrants and 2 are not practising, leaving a potential 54 from whom fees are collectible. On this basis, the percentage of paid-up membership is 93.

58 doctors have been lost to us during the year; 12 are deceased and 46 have left the province.

61 new members have been enrolled to date this year.

The number of paid-up members is slightly higher than at this date in 1950, but the percentage works out about the same, owing to there being a small increase in the number of doctors in the province over last year. The total membership at the close of 1950 was 685, and your committee anticipates that figure will be surpassed before December 31st, 1951.

May I, once again, express sincere thanks to all members for their continued co-operation and support during 1951.

Respectfully submitted.

Ruin Lyons,  
Chairman.



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**CORTONE Acetate**  
25 mg. each in  
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**of CORTONE Acetate**  
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1.5% — 3.54 gm. tubes

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## Economics

To the President and Executive of  
The Manitoba Medical Association:

31. 1. The Committee on Economics has had to deal with many problems affecting the profession during the year. Some are assigned to special committees which will bring in their separate reports and your Committee on Economics, having been represented on the committees, may take part in the discussions thereof. Again, it was found that nearly all topics coming before the profession have, sooner or later, an economic problem involved, and it should be emphasized that we must adopt a steadfast, broad policy and apply it to all matters consistently. There is a danger that a committee may make a concession to some lay society interested in a special disease which we cannot make to others. It is obvious that all committees should clear their agreements with your Committee on Economics.

32. 2. Federal and provincial governments have continued to give grants to various organizations which are interested in special diseases. In some of these the grants are augmented by funds raised by public subscription so that the societies maintain the status of semi-charitable organizations. Apparently they are prepared to distribute their funds for all things at the usual rates, *except for medical care*. It is unreasonable that this should be expected. As an example, one of these is the Society for Crippled Children and we are always loath to dispute on a matter that has such a sentimental appeal to all of us. However, this society pays transportation companies, hospitals and maintenance, mechanical supplies, and rehabilitation, etc., but expects medical care to be provided free by doctors. It is evident that governments will provide more and more grants for such purposes, *and the time has come when the profession cannot recognize a person as a medical-indigent if he has become a ward of the government, either wholly or in part*. Your committee recommends that the above policy be applied in dealing with these societies.

33. 3. It is noted with satisfaction that the anaesthetists of two hospitals have changed from the status of salaried employees of the hospital to a fee-for-service. You will remember that this subject has been under discussion for the past two years. It is hoped that this change will eventually spread to other hospitals and we shall be able to retain our trained anaesthetists in Manitoba. Our members who have taken this step deserve the support of the profession. Some arrangement will have to be made to transfer anaesthetic coverage from the contract of the Manitoba Hospital Service to that of the Manitoba Medical Service.

34. 4. The Trans Canada Medical Services Commission has commenced work. This Commission will eventually unify the separate provincial plans and will have something definite to offer the federal government if and when it becomes active in a national health insurance scheme. There will be further details of this given in the report of the Manitoba Medical Service.

35. 5. Your chairman has been one of the members on the Health Survey Committee for Manitoba. The Medical Care Division of this Survey used a questionnaire, which was completed by some 75% of our practitioners. The tables compiled from this questionnaire are an honest attempt on the part of the government-employed workers to get at the facts. However, as with all such statistics, they are capable of producing the interpretation one wishes, and it is likely that there will be some variance of opinion as to the health conditions and needs in this province.

36. 6. Old Age Pensions have been paid in this province to those over 70 years with a means test and will soon be paid

to those over 70 years without a means test. So far in Manitoba, the pensioner has been considered a medical-indigent and has had free medical care. In some provinces the provincial governments have paid for the pensioner's medical care at a reduced rate. Governments are being asked to provide full medical and hospital care for those pensioners who are subject to a means test. Our Statement of Policy, Section 6, reads: "The provision by the State of the Health Insurance premium, in whole or in part, for those persons who are adjudged to be unable to provide these premiums for themselves." This should be the basis for our negotiations in this province. Those over 70 years will not be subject to a means test and all will not require and should not be provided with government-sponsored medical care. This policy has been adopted by the Canadian Medical Association.

37. 7. The Coroners of this province have been using a fee schedule which came into effect on May 4th, 1905. A questionnaire was sent out by this committee asking for their suggestions and comments as to changes desired. The unanimity and reasonableness of these replies are a credit to the physicians who have done this work for so many years as a duty alone. The negotiations which your committee have undertaken at the time of writing will surely meet with success if the government is sincere in its frequent hopes for the co-operation of the profession. These negotiations also include the contracts of the Provincial and Deputy Coroners and the Jail Physician. We expect to be able to report further at the time of the General Meeting.

Respectfully submitted.

Elinor F. E. Black,  
Ravin Lyons,  
Roy W. Richardson,  
Chairman.

## Legislative Committee of Fifteen

To the President and Executive of  
The Manitoba Medical Association:

38. Two meetings of the Committee of Fifteen were held in the past year. The first meeting was held in October, 1950, to discuss the Workmen's Compensation Act. It had been learned that the Minister of Labour was forming a Committee of the House to receive briefs from interested groups, such as Labour, Management, etc., such briefs to contain recommendations for amending the Act. The meeting was held in the Medical Arts Club Rooms, and Dr. D. J. Fraser was invited to attend. It was soon found that a comprehensive analysis of the entire Act was not feasible for such a large group, so, after some rather spirited discussion, the meeting decided to appoint a sub-committee to study the Act and prepare the desired brief.

The Committee consisted of: Doctors Ross Cooper, Chairman, Henry Funk, F. D. McKenty, M. T. MacFarland, ex officio.

39. This committee met on several occasions, each member preparing a brief. From all of these a composite brief was finally prepared by Mr. Laidlaw, our solicitor, who presented it before the House Committee. It became apparent that there were many features of the existing Act that were unreasonable, unpopular with the profession, and obsolete.

40. Points recommended in our brief were:

1. The adoption of the Manitoba Medical Association fee schedule.

2. That the medically trained personnel of the Board be increased in order that disputes over methods of treatment, needs of workmen, and the appraisal of physicians' accounts can be reduced to a minimum, and thus avoid the possibilities of friction between the individual physician and the Board.



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**1941** Inositol had its role in accelerating the removal of cholesterol shown, and in 1944 its value in preventing fatty livers was demonstrated. *Gavin & McHenry, J. Biol. Chem., 139, 485, 1941. Eddy and Dalldorf The Avitaminoses, Williams & Williams, Baltimore 1944.*

**1946** Cystine was shown to have lipotropic action particularly in combination. *A. J. Beams, J.A.M.A., 130:190, Jan. 26, 1946.*

**1947** Choline was officially accepted for inclusion in the N.N.R. as a lipotropic agent. *J.A.M.A., 135:16, 1073, Dec. 30, 1947.*

**1948** Methionine was officially accepted for its lipotropic activity. *J.A.M.A., 139:6, 430, Oct. 6, 1948.*



## 1951

Through the recent studies of Golfman and others, additional light on the subject of hypercholesterolaemia is being obtained tending towards verification of the assumption that a combination of the lipotropic factors with adequate amounts of essential B complex factors constitutes the best treatment.

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3. A closer liaison between the profession and the Board, even to the extent of having a duly qualified medical practitioner as a member of the Board.

4. The desirability of setting up a representative committee to deal with cases in which medical evidence has a definite bearing on the establishment of the claim of the applicant and contentious matters arising therefrom.

5. An extension of the reporting time in cases of hernia.

6. Further study of the problem of rehabilitation of the injured workman, both from remedial and from occupational standpoints.

In passing, it is noted that none of the recommendations contained in our brief were included in the amendments to the Act passed at the recent session.

41.

A second meeting was held late in March, 1951, to discuss legislation by which the Radiologists were proposing to incorporate. This information reached us after the private bill dealing with this matter had received first reading. At the meeting Doctor Childe and Doctor McCulloch were invited to be present to explain their reasons for such a step. It was felt by the Committee that the time was inappropriate for such incorporation, and a resolution to this effect was passed and forwarded to the College of Physicians and Surgeons, and the Manitoba Medical Association. When the Radiologists became fully acquainted with the view of the profession they withdrew their bill although it is understood they intend to proceed with the incorporation of their Section at a later date.

No other meetings of the Committee of Fifteen were held. All of which is respectfully submitted.

Ross H. Cooper,  
Chairman.

### Workmen's Compensation Board Negotiating Committee

To the President and Executive of  
The Manitoba Medical Association:

42.

The resolution of the 1950 Annual Meeting suggested that the Minimum Schedule of Fees of the Manitoba Medical Association, or modification thereof, be used in future negotiations. The profession was circularized, and a modification of fee schedule prepared after several meetings, and perusal of the returns submitted. A new schedule was submitted which it was hoped might be effective on July first. A supplementary report may be available.

P. H. McNulty,  
Chairman.

### Workmen's Compensation Board Medical (Referee) Committee

To the President and Executive of  
The Manitoba Medical Association:

43.

Your committee assembled on 14 occasions in the past year. A total of 36 patients were studied and reported upon. No unusual difficulties were encountered.

Respectfully submitted.

C. E. Corrigan,  
Chairman.

### Fee Committee

To the President and Executive of  
The Manitoba Medical Association:

44.

The Fee Committee asked for clarification of status when some decisions approved by the Executive Committee were returned by the Manitoba Medical Service, and later again

reviewed by that body. Finally, agreement was concluded that fees set by the Association Committee should be sent to Manitoba Medical Service for perusal before ratification by M.M.A. Executive Committee. The delayed implementation of fees and revision of the Association Schedule of Minimum Fees should now proceed apace.

Eyjolfur Johnson,  
Chairman.

### Addendum to Report of Fee Committee Read at Annual Meeting

1.

When the last revision of the fee schedule for the Manitoba Medical Service was published in 1949 it was agreed that the setting of fees and their subsequent modification should be the function of the Manitoba Medical Association. The Board of Trustees of the Manitoba Medical Service is a mixture of laymen and doctors. Its function is the administration of the Service but the Board is poorly constituted to decide fees. In the final analysis the fee schedule is simply a method of dividing the money available for professional services in as equitable a manner as possible.

2.

The Manitoba Medical Association set up a Fee Committee which was expected to function continuously and to make a continuous study of the fee problem. The Committee was instructed to consider all suggested changes and to make firm and considered recommendations. In order that the Committee could be representative of varying points of view and yet small enough to function efficiently and decisively it was limited to three members, one a specialist, one a general practitioner and the third to be the President of the Manitoba Medical Association. In addition there were two ex officio members, the Executive Secretary of the Manitoba Medical Association and the Medical Director of the Manitoba Medical Service.

3.

The Committee consists of:

1. The President of the Manitoba Medical Association (Dr. E. Johnson).

2. Dr. P. H. McNulty, representing general practice.

3. Dr. C. H. A. Walton, representing specialist practice.

Ex officio:

4. Dr. M. T. Macfarland.

5. Dr. J. C. MacMaster.

Since its formation the only change in the personnel of the Committee has been the annual one of President.

4.

The Committee has met frequently and devoted close attention to the complicated and tedious job of adjusting Manitoba Medical Service fees. Well prepared submissions from various groups and individuals have been received and given serious attention. When decisions were reached they were forwarded to the Executive of the Manitoba Medical Association and have all been approved.

5.

In November, 1950, the Fee Committee was very disturbed to learn that many of its submissions had not been acted upon by the Manitoba Medical Service and that the Board of Trustees of the Manitoba Medical Service had set up its own Fee Committee to reconsider the fee recommendations from the Manitoba Medical Association. As a result in several instances a new set of fees was produced. These new set of fees were again unacceptable to the Board of Trustees and the Board set up a second group of its members which produced a third set of different figures. One can only presume that a fourth, fifth or sixth schedule was not produced because of pressure of other business.

6.

Your Fee Committee recognized that many, indeed all, of its recommendations were open to criticism. It welcomed comment and advice from responsible groups and even individuals and it invited such groups as the Manitoba Medical Service to



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submit fee problems for advice and this was frequently done. However, the Committee also recognized that any committee would be subject to the inevitable dangers of fallibility. It realized that perhaps hundreds of different and sincere opinions could be obtained on any fee. It was obvious then that arbitrary decisions were necessary, and indeed imperative, if the work of the Manitoba Medical Association and the Manitoba Medical Service was to proceed without undue delay, inefficiency and dissatisfaction on the part of the medical members. The Committee also felt that the fee problem must remain fluid and that changes would be necessary from time to time. Such changes would, of course, be based on the evidence available for them and on the advice of the expert officials of the Manitoba Medical Service and the Manitoba Medical Association.

7. On the twenty-seventh of November, 1950, the Fee Committee drew the above considerations to the attention of the Executive and by resolution advised the Executive that "The Fee Committee is of the opinion that the Manitoba Medical Service fee schedule should be changed only by the Manitoba Medical Association on the advice of its own Fee Committee and that if this principle was not acted upon that the Fee Committee should be discharged."

8. After long negotiation between the M.M.A. Executive and the M.M.S. Board of Trustees, the Fee Committee was directed by the Executive to submit its recommendations to the Manitoba Medical Service for comment before submission to the Manitoba Medical Association for approval.

9. Your Committee is of the opinion that this solution is most unsatisfactory for the reasons outlined and declines to act under these instructions. There is a great backlog of unfinished business some of it over a year old. It is useless to proceed with this work if the great amount of labour involved is to be vitiated by another one or several committees, particularly as such committees are unlikely to reach a conclusion which is more satisfactory. A Trustee of the Manitoba Medical Service is in little better position to judge fees than any other physician and his opinions should be considered in this light.

10. Your Committee has to report that its actions have been held in abeyance since November, 1950, and that many of its prior actions have yet to be passed by the Manitoba Medical Service. Much of its work has been wasted and a great deal has been left undone. Your Committee therefore feels that the problem should be settled by the following resolution and that if this cannot be done that the Fee Committee should be discharged. An alternative is to permit Manitoba Medical Service fees to be set by the Board of Trustees and to abdicate the right of the medical members to control their fee schedule through their properly constituted representatives, the Executive of the Manitoba Medical Association.

Respectfully submitted for the Fee Committee.

C. H. A. Walton.

### Resolution

Whereas the formulation of fees for professional services is a prerogative of the Manitoba Medical Association, and

Whereas the Manitoba Medical Association has a Fee Committee in which it has full confidence, to study and recommend changes not only in the Manitoba Medical Service schedule but also in other fee schedules, and

Whereas the Committee is representative of all interested parties, and

Whereas the Committee has always been ready to consider submissions from all responsible groups including the Manitoba Medical Service,

Be it resolved that the Manitoba Medical Association in Annual Meeting assembled reaffirm its approval of the method of studying and changing fees for the Manitoba Medical

Service and all other schedules by means of a Fee Committee responsible to the Manitoba Medical Association Executive; and that the Board of Trustees of the Manitoba Medical Service be requested to accept and act on the fee changes made by the Manitoba Medical Association; and that the Board of Trustees be advised that the Manitoba Medical Association reserves the right to represent the profession in the matter of fees; and that the Manitoba Medical Association being desirous of aiding the Manitoba Medical Service in every possible way is of the opinion that an arbitrary, though continuously reviewed and non-final setting of fees is the only practicable method of solving a difficult problem and of sparing the Board of Trustees additional and unprofitable labour.

### Constitution and By-Laws

To the President and Executive of  
The Manitoba Medical Association:

45.

In accordance with Article 15 "Amendments" of the Constitution and By-laws, the following notice of motion was given in writing to the Secretary one month before the Annual Meeting and was laid before the Executive Committee for consideration, and referred by that body to the Annual Meeting.

Addendum to Article 6:

"(g) The Chairman of the Committee on Economics shall be appointed by the Executive Committee and shall hold office for one year and shall be a voting member of the Executive Committee of the Manitoba Division during his term of office."

This proposed addendum to Article 6 would not appear to conflict with other parts of the Constitution and By-laws.

Respectfully submitted.

Murray H. Campbell,  
Chairman.

### Extra Mural

To the President and Executive of  
The Manitoba Medical Association:

46.

Nine requests for speakers at District Meetings were received during the year, and were dealt with.

The Committee wishes to thank the district secretaries for their usually successful attempts to allow reasonable time for arrangements to be made. We also wish to thank the Executive Secretary and his staff for their indispensable assistance in the work of the Committee.

The following is a list of meetings, speakers and their subjects:

#### Brandon and District Medical Society:

September 13th, 1950, at Brandon:

Dr. A. W. Andison—"Obstetrical Difficulties."

Dr. M. R. MacCharles—"Breast Carcinoma."

February 21st, 1951, at Brandon:

Dr. A. B. Houston—"Management of Cardiac Arrhythmias."

Dr. E. W. Pickard—"Congenital Defects."

#### North of 53 District Medical Society:

February 16th, 1951, at Flin Flon:

Dr. C. B. Schoemperlen—"Treatment of Anaemias."

Dr. Paul K. Tisdale—"Observations on the use of Banthine."

#### Northern District Medical Society:

November 8th, 1950, at Dauphin:

Dr. F. G. Allison—"Progress in Cardiology."

Dr. C. E. Corrigan—"Peripheral Vascular Surgery."

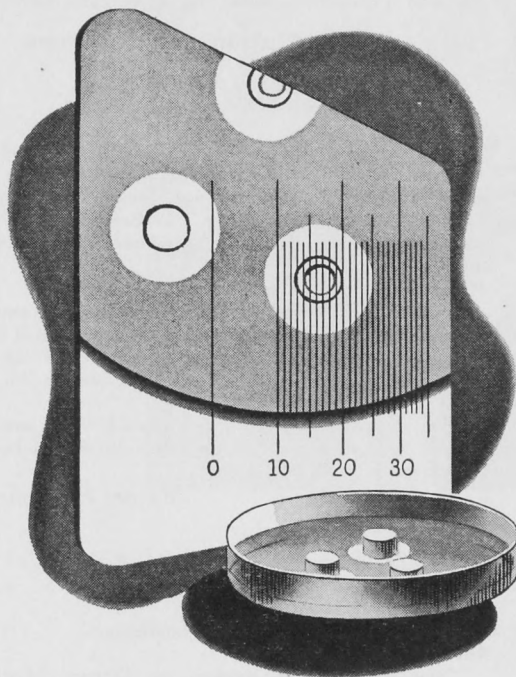
#### Northwestern District Medical Society:

September 27th, 1950, at Roblin:

Dr. F. A. Macneil—"Hoarseness."

Dr. L. R. Rabson—"Full-thickness Skin Grafts for the Repair of Herniae."

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## MERCK PENICILLIN PRODUCTS

1. Pratt, R. and Dufrenoy, J., *Antibiotics*, J. B. Lippincott Company, Philadelphia, 1949, p. 30.
2. Keefer, C. S., *Postgraduate Medicine* 9: 101, Feb. 1951.
3. Goldstein, A.: Antibacterial chemotherapy, *N. England J. Med.* 240: 137-147, Jan. 27, 1949.
4. Flippin, H. F. and Israel, H. L., *Mod. Med.* p. 69, Feb. 15, 1951.



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May 16th, 1951, at Hamiota:

Dr. Sydney Israels—"Anaemia in Children."

Dr. A. J. Hoogstraten—"Bone Marrow as an aid to the Diagnosis of Anaemia."

June 27, 1951, at Clear Lake:

Dr. Otto Schmidt—"Antepartum Labor."

#### Southern District Medical Society:

October 26th, 1950, at Carman

Dr. H. Morison—"X-ray Diagnosis of Gastro-Intestinal Lesions."

Dr. S. Vaisrub—"Some Recent Advances in Medicine."

May 10th, 1951, at Winkler:

Dr. Paul T. Green—"A.C.T.H. and Cortisone."

Dr. L. R. Coke—"Electrocardiography."

Respectfully submitted.

P. K. Tisdale,  
Chairman.

### Historical Medicine and Necrology

To the President and Executive of

The Manitoba Medical Association:

47.

Your committee reports with regret the passing of the following members of the Association during this last year: Robert James Rose Bright, Bruce Hill, Arnot Glassup Vivian Leishman, Gorge Stuart Musgrove, Alexander James Swan, Harry Martindale Speechly, Joseph Louis Wiseman, all of Winnipeg.

William Oliver Henry, Deloraine; Archie Vivian Jubb, MacGregor; Charles Victor McClelland, Pilot Mound; William Morrison, Gilbert Plains; Sydney James Shepard Pierce, Brandon.

It were indeed unseemly in the presence of the majesty of death that any invidious distinction should be made by us at this time. We are proud of these, our brothers, who have gone before us to receive the supreme accolade from the Great Physician: "Well done, thou good and faithful servant, enter thou into the joy of the Lord."

Let this occasion be a solemn reminder to us all that it is our duty and privilege to give of the best that is in us, while we remain here but a little while.

Respectfully submitted.

Athol R. Gordon,  
Chairman.

### Manitoba Cancer Relief and Research Institute

To the President and Executive of

The Manitoba Medical Association:

48.

The most notable achievement in the past year has been the establishment of a new Cancer Diagnostic Service, achieved by co-operation between the Cancer Institute, the Association and the hospitals concerned.

(a) Cancer Diagnostic Services for residents of Manitoba outside of the Greater Winnipeg area were initiated December 1, 1950, with units established at the Winnipeg General and St. Boniface Hospitals. Should the volume of work warrant, other Diagnostic Centres may be set up in other hospitals, including those outside of Winnipeg.

(b) At each hospital the staff consists of a part-time Cancer Teaching Fellow appointed by the University, paid by the Institute, and also a Secretary. Because the latter cannot be kept busy full-time, at present her services are also used by the hospital for cancer follow-up and record purposes.

For purposes of liaison between the hospitals, and to insure smooth day-to-day operation of the Diagnostic Services, a Medical Services Committee was appointed, consisting of three doctors from each hospital who are especially interested in the cancer problem. In practice, the Cancer Teaching Fellow

usually consults the men at the hospital concerned regarding problems which arise, and liaison is carried out through the staff of the Manitoba Cancer Institute.

(c) Patients must present special referral forms upon arrival at the hospital. This insures that only those patients will be investigated who have been referred by their doctors.

(d) The service is restricted to diagnosis. When the diagnosis has been made treatment is carried out on a public ward basis or, if the patient prefers and can afford to do so, he may choose his own doctor and receive treatment on a private basis.

Although the monthly case load is small, it is increasing gradually as doctors become familiar with the advantages of the Cancer Diagnostic Services. In this respect there is a resemblance to the Biopsy Service which, in 1938—the first full year of operation—processed 25 specimens as compared to 1,594 during the past year.

(e) Before the Cancer Diagnostic Services were established a fear was expressed that a high proportion of obviously non-malignant conditions would be investigated. So far, there is no indication that this fear will materialize because nearly 50% of the patients seen have been found to have cancer.

Respectfully submitted.

C. E. Corrigan,  
Chairman.

### Post-Graduate

To the President and Executive of

The Manitoba Medical Association:

49.

This committee arranged a very complete Post-Graduate Refresher Course, March 26th-30th of this year. We had outside visiting speakers and the course was well attended by doctors of Manitoba and adjoining provinces and states.

The visiting speakers were:

Dr. Gaylord W. Anderson, Mayo Professor and Director of School of Public Health, University of Minnesota. President-elect, American Public Health Association.

Dr. Douglas E. Cannell, Professor of Obstetrics and Gynaecology, University of Toronto.

Dr. Ray F. Farquharson, Professor of Medicine, University of Toronto.

Dr. Walter C. MacKenzie Professor of Surgery, University of Alberta.

Many local doctors also presented papers, and conducted Round-Table Conferences.

Respectfully submitted.

A. Hollenberg,  
Chairman.

### Editorial

To the President and Executive of

The Manitoba Medical Association:

50.

During the past year the quality and quantity of material in the Review has been maintained in spite of unexpected difficulties.

We still fall short of our desire to have the Review reflect all the local medical activities. There have been more communications from the General Practitioners' Association but still more are desired, and "M.M.S. Memos," of which some have been published, are promised in larger number in the future. The proceedings of the Winnipeg Medical Society are now being reported by Dr. J. R. Mitchell and are likely to get more adequate coverage next year.

There have been, however, two serious omissions—hospital reports and addresses of visiting speakers—both of which are of great interest to all our readers, especially to those who live out of town.

The subjects considered at hospital ward-rounds and luncheons are topical and practical, and deserve much larger



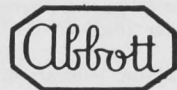
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1. Slinger, W. N., and Hubbard, D. M. (1951), Arch. Dermat. & Syph., 64:41, July.
2. Slepyan, A. H. (1951), Communication to Abbott Laboratories.
3. Ruch, D. M. (1951), Communication to Abbott Laboratories.

audiences than can attend. These meetings are functions of hospitals as educational institutions. It would be the advantage of the hospitals and readers alike to have at least summaries of the presentations given at them available for those who cannot attend the meetings.

We have suggested before that hospital programme committees consider the possibility of increasing their duties by preparing summaries or securing papers for publication in the Review. The hospitals would thus become more active in education and would, moreover, have a permanent record of their clinical transactions.

The same responsibilities and advantages apply to Sections and District Societies. The communications given at their meetings ought to have a permanent record in our pages. The good instruction imparted to the few who can attend these sessions should be made available to the many who cannot attend, so that all may have the opportunity to read what most have had no opportunity to hear.

51.

It is no less unsatisfactory to our readers than it is to us, that we are unable to report the presentations of distinguished visitors. Their audiences must of necessity consist of only that fraction of our membership which can attend these special meetings. Even those who can go to listen would benefit if they had later on the opportunity to read what they had heard; and those who had no chance to hear should have opportunity to read what was said. Most of our prominent guests dispense with manuscripts, and only by recording what they say can we get the material to print. We hope during the coming months to record these communications.

But most of their papers are illustrated, and without the illustrations the instruction is greatly lessened in its value. An effort must be made to obtain funds to defray the cost of cuts. The C.P. & S. was approached on this matter but did not see its way clear to contribute. The cost for a year is likely to be under rather than over \$300.00 but the Review cannot undertake this expense.

Local authors will still be expected to defray the cost of illustration themselves. During the year several cuts have been supplied at Mr. Whitley's personal expense but this is both unsatisfactory and unfair. Yet the ability to give our readers well illustrated papers by distinguished authorities would greatly increase the value of the Review and would make it possible for distant members to enjoy some of the advantages of their urban colleagues.

52.

I wish to thank all those who have contributed to the current volume and those who have helped in various ways. Chief among these latter are Dr. Peikoff, who has never failed me, and Dr. Borthwick-Leslie than whom no one could be more efficient in her special department. Dr. J. R. Mitchell promises to be a valuable assistant and Dr. Ross Mitchell has performed well the unpleasant duty of writing the obituaries.

Dr. Macfarland, burdened as he is with many responsibilities, has found time nevertheless to keep our members completely informed upon all the affairs of the Association and of the College. Those who read his contributions regularly are kept up-to-date on all our business affairs and those who are not his regular readers should become such. The condensing of much business material into short, clear, readable paragraphs is an arduous and time-consuming task but a most necessary one, and a very thankless one if what is written is not read.

The debt that all readers of the Review owe to Mr. Whitley is appreciated only by those in closest contact with him. The production of a good "book" is his chief aim, and success in doing so is his chief satisfaction. That our "books" are good is largely due to his efforts.

We thank the advertisers who make the Review possible,

and the printer, Mr. Roscoe, who does his part in making our journal attractive and readable.

Respectfully submitted.

J. C. Hossack,  
Chairman.

## Editorial Board, C.M.A. Journal

To the President and Executive of  
The Manitoba Medical Association:

53.

Your Editorial Board, Canadian Medical Association Journal, begs to submit the following report of the year's activities.

Manitoba has been well represented in the columns of the Canadian Medical Association Journal. This publication continues to be of increasing importance in world medical centres, and contributions published therein are not overlooked. The following Manitoba authors contributed to the Journal: H. W. Bottomley, D. Parkinson, P. H. T. Thorlakson, A. A. Earn, G. S. Fahrni, G. L. M. Smith, E. R. Gubbay, C. H. A. Walton, D. W. Penner, J. C. Wilt, W. A. Bigelow, Ross Mitchell, A. W. Hogg, A. Klass, D. Swartz, J. R. Taylor and S. Vaisrub. Respectfully submitted.

Ross Mitchell,  
Athol Gordon,  
Joint Chairmen, Editorial Board.

## Maternal Welfare

To the President and Executive of  
The Manitoba Medical Association:

54.

Your committee wishes to report as follows for the year 1950: The maternal death rate was .98 per 1,000 live births (there were 19,398 live births in 1950). The figure for 1949 was 1.3, and for 1948 it was 1.4.

The causes of death were:

1. Embolism .....	4
2. Haemorrhage .....	3
3. Puerperal Sepsis .....	3
4. Eclampsia .....	2
5. Ectopic Pregnancy .....	2
6. Severe Anaemia and Shock .....	2
7. Abortion with Infection .....	1
Total .....	17

8. Associated Maternal Deaths .....

2

The causes of death in the associated cases were:

1. Bilateral lobar pneumonia.
2. Lymphosarcoma.

The case records supplied by the Division of Statistics, Department of Health and Public Welfare, were studied, and the following points were noted:

1. 7 patients had no pre-natal care.
2. 2 patients admitted self-interference.
3. Autopsy was performed in only 5 cases.
4. Certain cases are difficult to classify due to lack of pre-natal care, or no medical attendance at delivery.

Respectfully submitted.

C. C. Henneberg,  
Chairman.

## Pension

To the President and Executive of  
The Manitoba Medical Association:

55.

The present Income Tax Law has no provision for pension deductions by the self-employed. Until this provision is changed by the federal government no economical Pension Fund can be established by the doctors. We were hopeful that this change would come about in the last session, but as things appear at present the government would rather establish

an Old Age Pension under federal control than allow the self-employed to look after themselves.

Respectfully submitted.

*M. S. Hollenberg,*  
Chairman.  
*Gerald Allison,*  
Co-Chairman.

### Group Insurance

*To the President and Executive of  
The Manitoba Medical Association:*

56.

Three hundred and forty-nine (349) members of the Manitoba Medical Association are policyholders in the Group Accident and Sickness Insurance plan sponsored by the Association. Since there are six hundred and seventy-five (675) paid-up members of the Association, this represents slightly more than fifty per cent of the total membership. Twenty-three new policies were issued during the past year but, due to death and lapses, there are five less members this year than in 1950. Approximately \$25,000.00 has been paid out in claims during the past year. This does not include claims being investigated at the present time, nor the balance of payments still to be made on claims which have been accepted.

It is interesting to note that this year both the Saskatchewan Medical Association and the Alberta Medical Association have instituted similar policies with the same company that carries our insurance.

There have been no serious disputes in claims processed during the past year, and both the company and your committee are satisfied with the status of the plan as it is operating.

The endorsement of the continuation of the Group Accident and Sickness Insurance Plan is heartily recommended.

Respectfully submitted.

*Lawrence R. Rabson,*  
Chairman.

### Public Relations

*To the President and Executive of  
The Manitoba Medical Association:*

57.

The Public Relations Committee arranged for a newspaper release refuting the idea that medicine in Manitoba is a closed shop. Permanent signs have been posted in the Winnipeg General, St. Boniface, and the Children's Hospitals, drawing attention of the public to the fact that medical work in the Public Wards and Outpatient Department is without financial reward.

The Doctors' Registry has been approached about putting their number with the other emergency numbers on page one of the telephone directory. The idea has met with a favourable response in many American cities.

Respectfully submitted.

*F. G. Allison,*  
Chairman.

### General Practitioners' Association of Manitoba

*To the President and Executive of  
The Manitoba Medical Association:*

58.

Numerous executive meetings were held throughout the year to deal with the business of the Section.

At a general meeting of the Section the Honorable Ivan Schultz, K.C., Minister of Health and Public Welfare, was the guest speaker. There was a good attendance.

The general practitioners have, from time to time, made representations to the Manitoba Medical Service that the fee differential between specialist and general practitioner be

eliminated. They feel that there is a great injustice done to the patient going to the family doctor having to bear the additional cost of the patient going to the specialist for the same type of service.

A very successful dinner and dance was held at the Don Carlos Casino in May.

Two scholarships, amounting to \$150.00 each, were presented to internes during the year.

Respectfully submitted.

*L. A. Sigurdson,*  
Secretary.

### Urology Award

The American Urological Association offers an annual award of \$1,000.00 (first prize of \$500.00, second prize \$300.00 and third prize \$200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists.

The first prize essay will appear on the programme of the forthcoming meeting of the American Urological Association, to be held at the Chalfonte-Haddon Hall, Atlantic City, New Jersey, June 23-26, 1952.

For full particulars write the Secretary, Dr. Charles H. de T. Shivers, Boardwalk National Arcade Building, Atlantic City, New Jersey. Essays must be in his hands before February 15, 1952.

### Medical Library Evening Hours

Sponsored by

**The Winnipeg Medical Society**  
**The Library Will be Open From**

**8 p.m. to 10 p.m.**

**Monday through Friday**

**October 1st to December 20th, 1951**

and will be **Discontinued** from January to March, 1952, unless adequate use is made of this service during the fall term.

#### Regulations

(1) The Library Committee wishes it understood that the Closing Hour of 10 p.m. will be **strictly adhered to**;

(2) All Reading Room facilities available to Physicians and students;

(3) The Student on duty will assist in looking up subjects in the Quarterly Cumulative Index Medicus for the last ten years;

(4) If previous references are required they should be obtained during the regular library hours (9 a.m. to 5.30 p.m.);

(5) **The Stackrooms will Not Be Open.**



**Department of Health and Public Welfare**  
**Comparisons Communicable Diseases — Manitoba (Whites and Indians)**

DISEASES	1951		1950		Total	
	July 15 to Aug. 11, '51	June 17 to July 14, '51	July 16 to Aug. 12, '50	June 18 to July 15, '50	Jan. 1 to Aug. 11, '51	Jan. 1 to Aug. 12, '50
Anterior Poliomyelitis	1	1	0	2	3	7
Chickenpox	106	112	70	114	1122	999
Diphtheria	0	0	1	0	5	6
Diarrhoea and Enteritis, under 1 yr.	15	15	20	9	83	97
Diphtheria Carriers	0	0	0	0	1	0
Dysentery—Amoebic	0	0	0	0	0	2
Dysentery—Bacillary	7	3	11	23	20	107
Erysipelas	2	4	3	3	17	6
Encephalitis	0	0	0	0	2	0
Influenza	4	7	5	11	761	182
Measles	113	145	43	56	2702	144
Measles—German	6	3	0	4	34	31
Meningococcal Meningitis	4	6	0	2	22	13
Mumps	45	42	32	29	1036	260
Ophthalmia Neonatorum	0	0	0	0	0	1
Pneumonia—Lobar	11	16	6	16	188	158
Puerperal Fever	0	0	0	0	0	4
Scarlet Fever	73	117	14	10	866	208
Septic Sore Throat	5	1	1	5	17	29
Smallpox	0	0	0	0	0	0
Tetanus	0	0	0	0	0	1
Trachoma	0	0	0	0	0	1
Tuberculosis	76	93	83	128	558	694
Typhoid Fever	0	1	0	0	2	3
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	0	0	0	2
Undulant Fever	0	0	2	4	5	25
Whooping Cough	28	38	36	24	255	162
Gonorrhoea	83	139	140	96	740	724
Syphilis	12	8	18	30	97	162
Tularemia	0	0	0	0	0	5

Four-Week Period July 15th to August 11th, 1951

DISEASES (White Cases Only)	*779,000 Manitoba	*861,000 Saskatchewan	*3,825,000 Ontario	*2,952,000 Minnesota
Anterior Poliomyelitis	1	13	315	73
Chickenpox	106	66	680	---
Diarrhoea & Enteritis, under 1 yr.	15	---	---	---
Diphtheria	---	1	1	7
Diphtheria Carriers	---	---	---	---
Dysentery—Amoebic	---	---	3	1
Dysentery—Bacillary	7	---	6	89
Encephalitis Epidemica	---	---	3	2
Erysipelas	2	1	1	---
Influenza	4	---	20	1
Jaundice Infectious	---	---	2	---
Measles	113	57	254	49
German Measles	6	38	98	---
Meningitis Meningococcal	4	2	4	8
Mumps	45	53	256	---
Ophthalmia Neonatorum	---	---	---	---
Pneumonia, Lobar	11	---	---	---
Puerperal Fever	---	---	---	---
Scarlet Fever	73	53	61	13
Septic Sore Throat	5	4	---	13
Smallpox	---	---	---	---
Tetanus	---	---	---	---
Trachoma	---	---	---	---
Tuberculosis	76	35	85	125
Typhoid Fever	---	---	2	---
Typhoid Para-Typhoid	---	---	---	---
Typhoid Carrier	---	---	---	---
Undulant Fever	---	1	8	20
Whooping Cough	28	36	156	11
Gonorrhoea	83	---	201	---
Syphilis	12	---	56	---
Tularemia	---	---	---	4

\*Approximate population.

**DEATHS FROM REPORTABLE DISEASES**

For the Month of August, 1951

**Urban**—Cancer, 65; Pneumonia Lobar (490x, 491-3), 2; Pneumonia (other forms), 4; Pneumonia of Newborn (763), 1; Puerperal Septicaemia (681), 1; Tuberculosis, 8; Benign Neoplasms (221-229), 1; Hydatid Disease (125), 1. Other deaths under 1 year, 26. Other deaths over 1 year, 184. Stillbirths, 16. Total, 226.

**Rural**—Cancer, 31; Pneumonia Lobar (490x, 491-3), 2; Pneumonia (other forms), 7; Syphilis, 1; Tuberculosis, 8; Other Fungus Infections (134), 2; Benign Neoplasms (221-229), 1; Diarrhoea and Enteritis (571.0), 2; Septicaemia and Pyaemia, 1; Meningococcal Infection (057), 1. Other deaths under 1 year, 21. Other deaths over 1 year, 190. Stillbirths, 17. Total, 228.

**Indians**—Other deaths under 1 year, none. Other deaths over 1 year, 3. Stillbirths, 2. Total, 5.

**Poliomyelitis**—To date of writing (September 10th) ten cases have been reported—none with marked paralysis.

**Chickenpox, Measles and Scarlet Fever**—Are still fairly prevalent but not in numbers or severity are they alarming.

**Rabies**—In animals is fairly prevalent in Minnesota and North Dakota. As well as dogs and cats, it is occurring in skunks. Our skunk population in Manitoba is quite "high" this year. We have not had cases reported but should be on the alert.

**Venereal Diseases**—Gonorrhoea is holding its own, but syphilis shows a definite decline.

# ● READ THESE FACTS

## BASED ON FINDINGS OF EMINENT AUTHORITIES

<i>Beneficial Actions</i>	Cortical Hormones	Succinate- Salicylate
1. Reduction of the content of ascorbic acid in the adrenal cortex.	YES	YES
2. Increase of the urinary excretion of uric acid.	YES	YES
3. Inhibition of the action of hyaluronidase.	YES	YES
4. Decrease of circulating eosinophiles.	YES	YES
5. Reduced production of serum gamma globulin and antibodies.	YES	YES
6. Decrease in allergic response.	YES	YES
7. Clinical relief of rheumatic symptoms.	YES	YES
8. Increase in tissue oxidation.	YES	YES
9. Promotion of phosphorylation.	YES	YES

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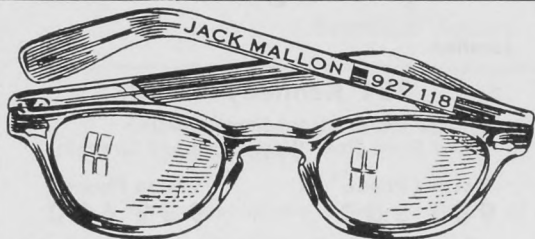
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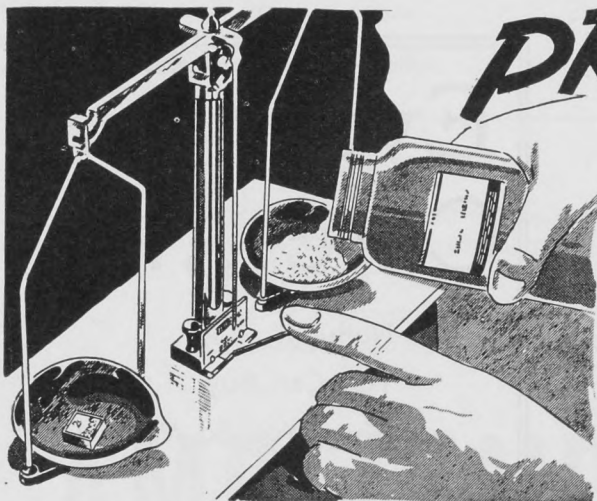
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